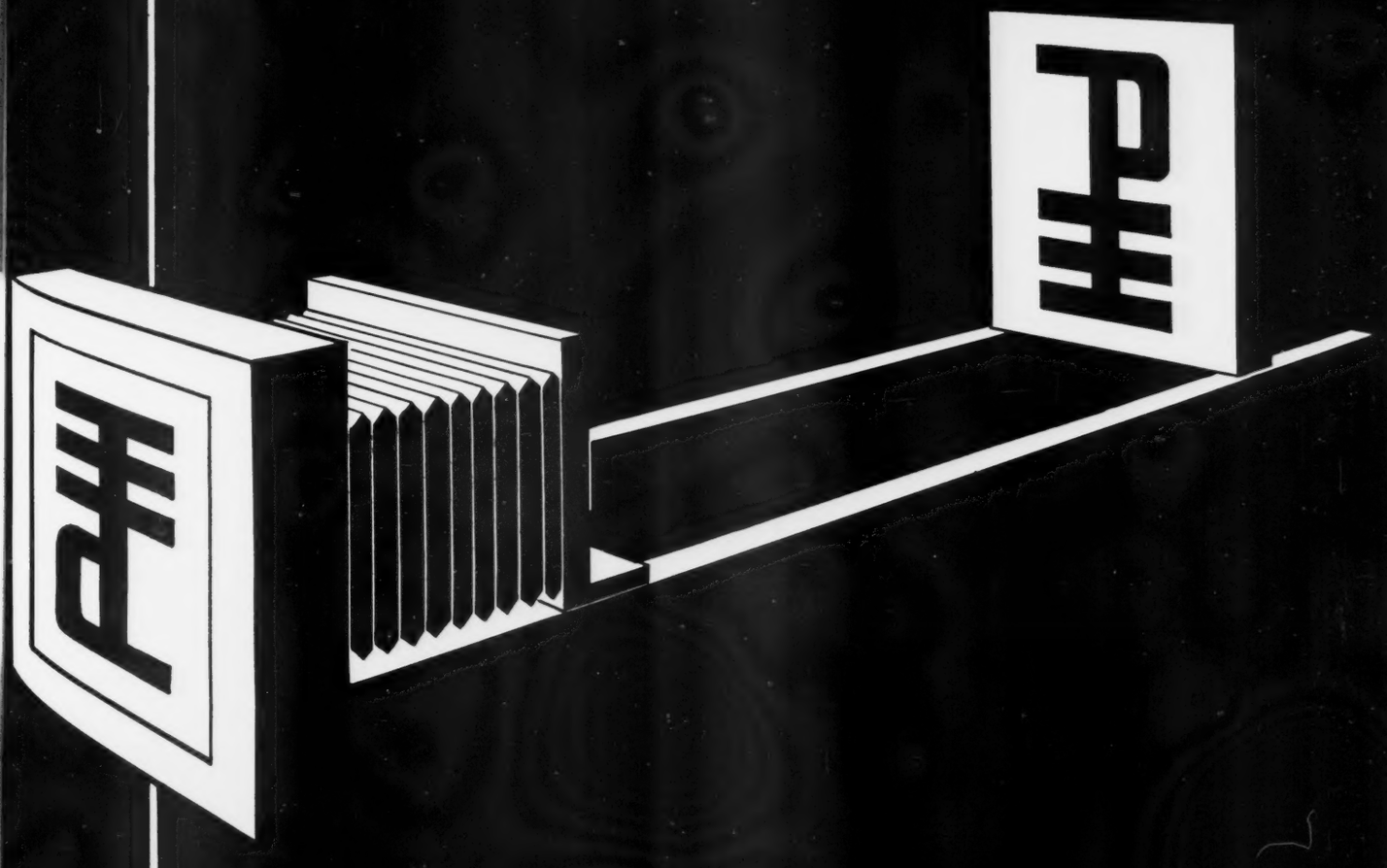
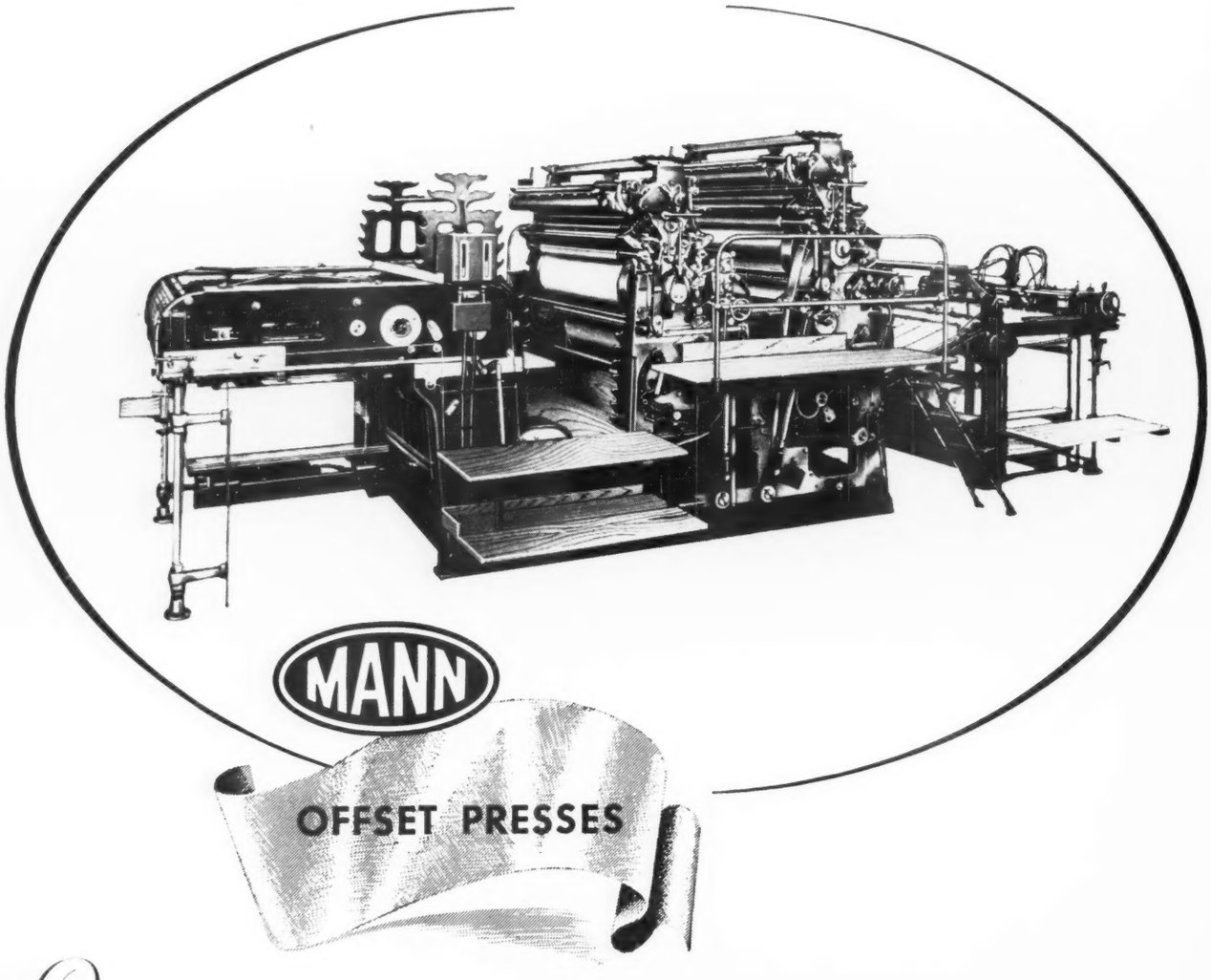
PLEASE ROUTE THIS COPY TO	
Manager	Pressroom F'm'n
Production Mgr.	Bindery F'm'n
Plant Supt.	Mailing F'm'n
Platemaking F'm'n	Maintenance Supt.
Composing F'm'n	Purchasing Agt.
For filing, please return to	

PRINTING EQUIPMENT *Engineer*



Royal Reception



CHICAGO proved it again. You naturally open your heart to bright new personalities, whether from Main Street or Mayfair. When American Type Founders introduced the world famous line of Mann Offset Presses at the Graphic Arts Exposition, printers from all parts of the country hailed these masterpieces of craftsmanship. It was a royal reception for a distinguished arrival.

Compare the time and money saving features that the Mann offers: centralized controls for cylinder paralleling and impression control, while press is running: clamp bars prearranged on plates and blankets, away from the press if desired, then dropped into position on the cylinders; vernier gauges for precision register; hydrostatic water control; trap delivery on the larger two-color presses; a superb inking system and many other features that are recognized in 55 different countries as outstanding.

Mann Offset Presses are available in thirteen single and two color models, for sheets from 22″x34″ to 43″x65″. A 38″x53½″ sheet-fed perfecting press is also offered. For full facts about the money making Mann, just ask your ATF Representative.

ATF An Associate

American Type Founders

200 Elmora Avenue, Elizabeth 3, New Jersey

• Branches in all principal cities

STA-HI

"SUPERIOR NEWSPAPER PRODUCTION MACHINERY"

Four great newspapers praise Master Router!

Satisfied users of STA-HI Master Routers in newspaper plants all over the country keep telling us how much they appreciate the product and performance of this fine precision equipment. The following are typical comments:

BALTIMORE SUN:

"I can only speak of your STA-HI Master Router in the highest possible manner for a machine of this kind. Its operation is perfect, it runs quiet, has no vibration and is satisfactory in every respect."

James F. King, Stereotype Supt.

NEW BEDFORD STANDARD-TIMES:

"We are very happy to report that the STA-HI Master Router is everything you said it was. The people who operate this machine consider it a vast improvement over its predecessor. The STA-HI requires less time in routing out color plates, a very important phase of operation these days."

E. G. Otis, Business Manager

ST. PAUL DISPATCH & PIONEER PRESS:

"We have been very well pleased with our STA-Hi Master Router and it is doing everything claimed for it. In fact, it is working so well that the men have compiled a substantial number of excuses why they should use the new machine and not the old one. Since installation of the new router we have been able to handle much greater amounts of routing . . . and when you are producing as many as 40 color insertions per month, additional routing facilities are necessary. The machine is doing a wonderful job and some one of these days I hope that we shall be able to buy a second one."

A. E. Rosene, Production Manager

TOLEDO BLADE:

"Our STA-HI Master Router is performing quite satisfactorily. We find a distinct improvement over our former curved plate router."

D. A. Wiley, Director of Production

We will be glad to send you complete information on this time and money saving machinery. Write us for full details.

STA-HI CORPORATION

235 W. WASHINGTON BLVD. • WHITTIER, CALIF.

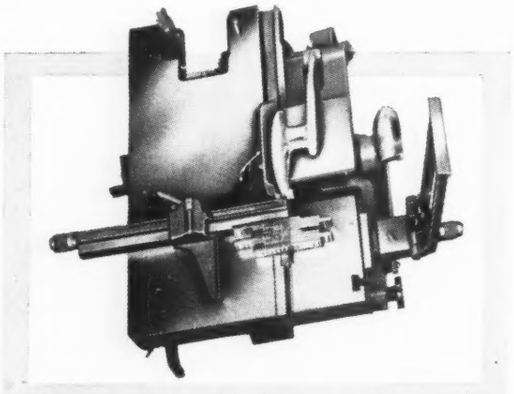
STA-HI MASTER ROUTER

SEE MORRISON SAW TRIMMERS FIRST...

FOR MODERN COMPOSING ROOM SAVINGS

Composing room foremen and compositors say that the Morrison "obsoletes all other saw trimmers" once you see and try this really modern saw trimmer.

When you check the new Morrison features, see how they save minutes and hours in composing room operations, simplify all kinds of jobs, sawing, trimming, plain cutting or undercutting, angle and miter work, you'll appreciate this enthusiasm. They're easier to use, faster, more accurate, and much more versatile.



Exclusive . . . Radical . . .

On the Morrison, your work is clamped *back of the gauge frame* — a radical departure. You'll find this handier, easier to see, more accurate, and safer. Prevents slug fanning and jumping.

MORRISON MODEL 3-A SAW TRIMMER

With 30" x 18" table; 73-pica gauge and work-holder; emery wheel and guard; standard miter gauge; miter vise; saw blade and trimmers; waste receptacle; and many other features and optional accessories.

CHECK...

Only Morrison Saw Trimmer gives you ALL these exclusive features:

- Miter Gauge with Point Adjustment
- Patented Universal Saw Blade, with Saw Grinding Attachment
- Right and Left Hand Mitering — all Miters face up
- Miter and Lineup Gauge
- Any-Angle Gauge
- Automatic Index for Plate Cutting and Trimming Positions
- Swing out 135 Pica Extension Gauge
- Advanced Clamping Method

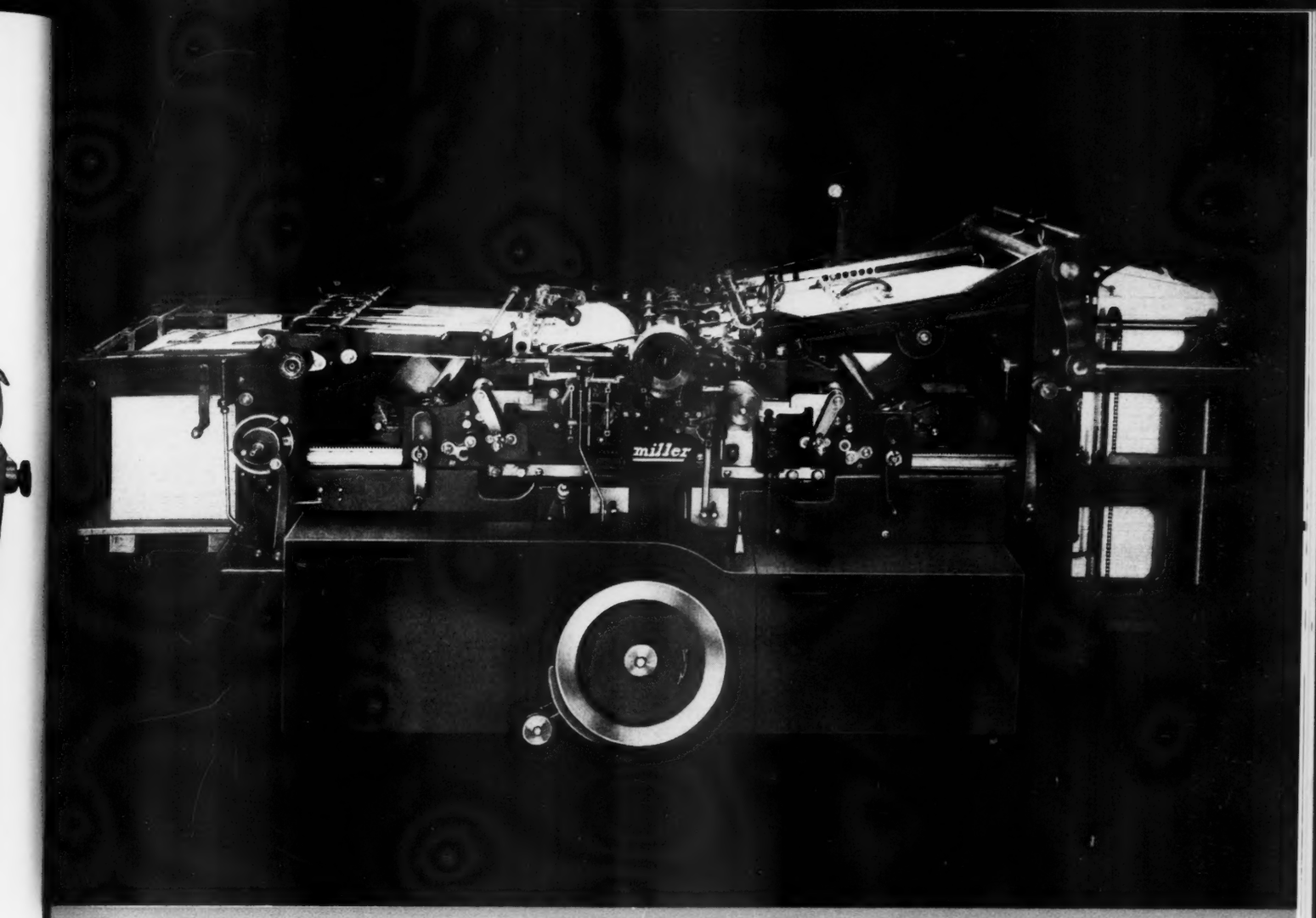
If you, too, want lower composing room costs, let us tell you where you can see a Morrison Saw Trimmer in use in your vicinity. Judge for yourself! Write today.

Symbol of Operating Economy

THE MORRISON COMPANY MILWAUKEE WIS.

THE *Morrison* COMPANY

125 W. MELVINA STREET • MILWAUKEE 12, WIS.



Picture Of A Masterpiece

of two-color letterpress printing machinery.

Of course, we know that is so, but of more importance, such is the opinion of users of the Miller 21x28 TW Two Color!

We will be pleased to send you specifications, prices and delivery dates.

miller

MILLER PRINTING MACHINERY CO.

Pittsburgh, Pa.

OVER ONE HUNDRED YEARS OF ROLLER MAKING

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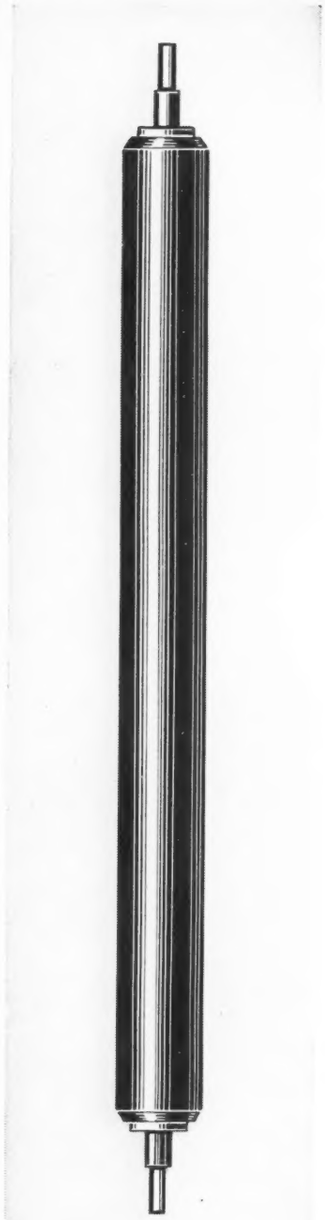

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COMPOSITION ROLLERS
for
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USE

SHIP YOUR OLD ROLLERS TO
THE FACTORY MOST CONVENIENT TO YOU

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CLEVELAND 14
DALLAS 1
DES MOINES 2
DETROIT 10
HOUSTON 6
INDIANAPOLIS 2

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NASHVILLE 3
OKLAHOMA CITY 6
PITTSBURGH 3
ST. LOUIS 2
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Pacific Coast Sales Representative; THE CALIFORNIA INK CO., INC.

PRINTING EQUIPMENT *Engineer*

AN INDUSTRY-WIDE TECHNICAL PUBLICATION

Published especially for management, production and mechanical executives responsible for printing production and the specification of equipment and supplies used in the commercial, magazine, private plant and daily newspaper fields.

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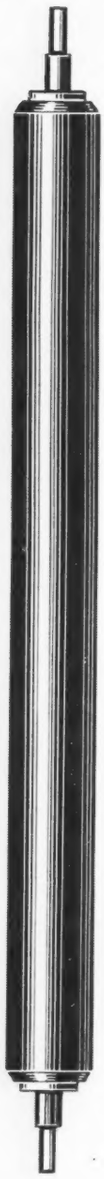

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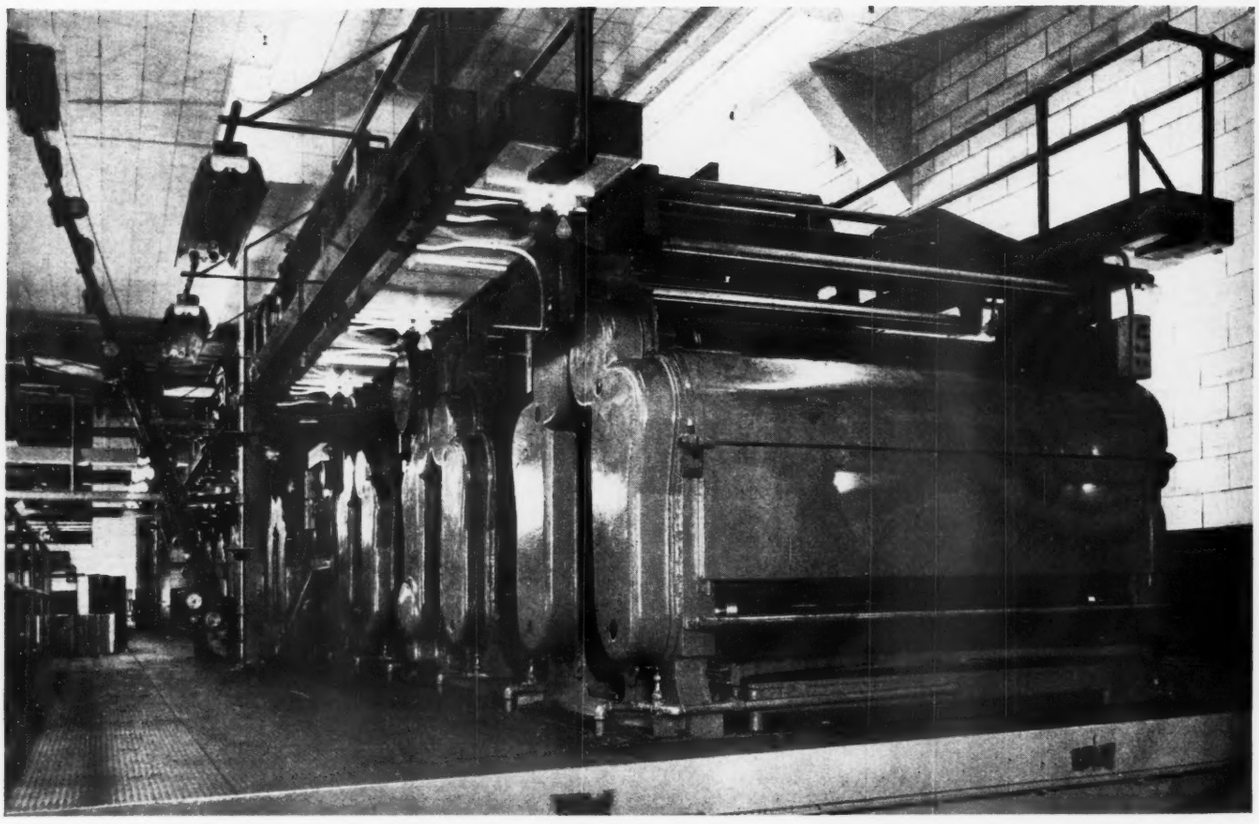
CONFIDENCE IN BUSINESS!

Confidence in business is the best asset any company can have. The SCOTT Newspaper Press is a standard, refined product, technically ahead because it is *planned* ahead and the SCOTT reputation and the satisfaction derived by SCOTT Press users is universally recognized.



The Milwaukee Sentinel thought so!

BUY WITH CONFIDENCE!

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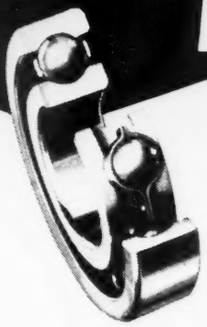
WALTER SCOTT & CO., INC.

PLAINFIELD, N. J.

PRESSES PRE-TESTED FOR PRECISION

Scott Press
with 16 Black Units and
8 Superimposed Color Units, built
for the *Washington Post.*

. . . bearings engineered by SKF



Walter Scott & Co., Inc., Plainfield, N. J., specializes in building presses in which every feature is pre-tested and perfected before it is incorporated in the press or offered to their customers. Result: fast, economical runs, clean impressions—no need for experimentation in the customer's pressroom.

SKF specializes in supplying the right bearings for the job . . . bearings which are manufactured under rigid quality controls.

Result: SKF Bearings can be relied upon for perfect uniformity, for maximum stamina, for long-term trouble-free service.

SKF Bearings are smoothing the flow of printed material in presses of every type and size. They can go to work for you. **SKF** INDUSTRIES, INC., PHILADELPHIA 32, PENNSYLVANIA—Manufacturers of SKF and HESS-BRIGHT bearings.

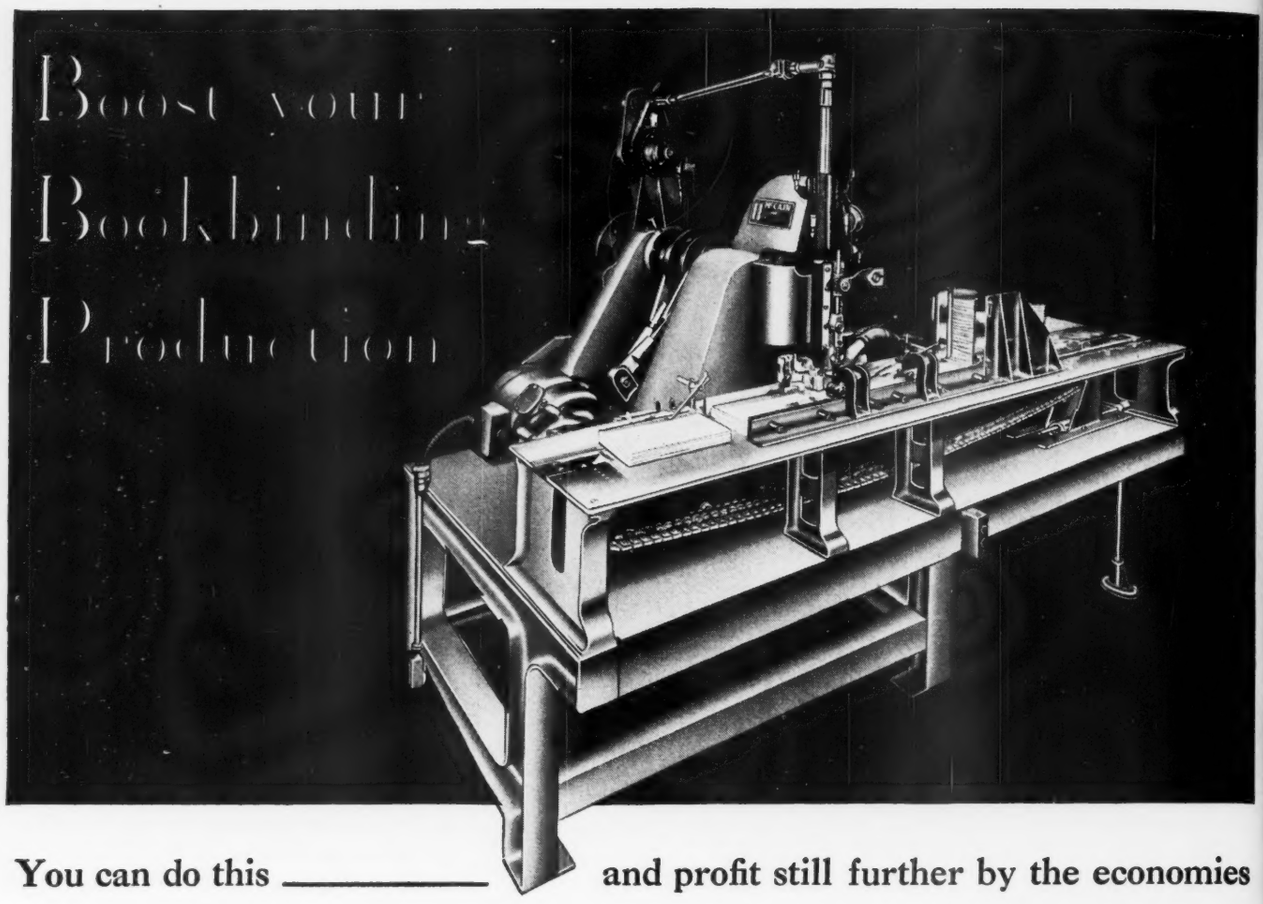
7159

SKF
BALL AND ROLLER BEARINGS

8 REASONS WHY SKF IS PREFERRED BY ALL INDUSTRY

Integrity · Craftsmanship · Metallurgy · Tolerance Control · Surface Finish · Product Uniformity · Engineering Service · Field Service

Boost your Bookbinding Production



You can do this _____ and profit still further by the economies

that come with the McCain Side Sewing System!

250 One Inch Stitches per Minute —That's the normal speed of the McCain Side Sewing Machine on books not over 3/4" thick.

Books from 3/16" to 3/4" in Thickness — backbone length approximately 8-1/2"—are handled at one thousand or more per hour.

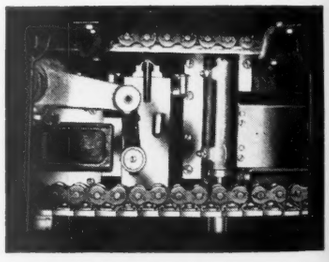
High Speed Production on Thick Books too — over 3/4" bulk — is developed by two-drill system, half drilled from above, half from below.

Still Further Strength — is added by gluing of bottom row of stitching.

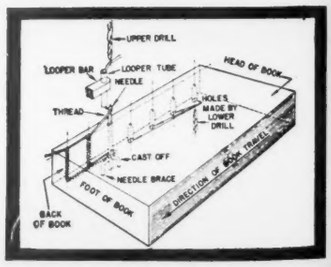
End Sheets and Reinforcing Strips — are sewed right into the rest of the book. Color and halftone plates (in editions) may be jogged and sewed into the complete unit.

Consider the Improvement in your Product — the increased production and the sound economies you can effect with the McCain Side Sewing System.

WRITE US FOR MORE INFORMATION...NOW!



All parts are easily reached for cleaning and lubrication.



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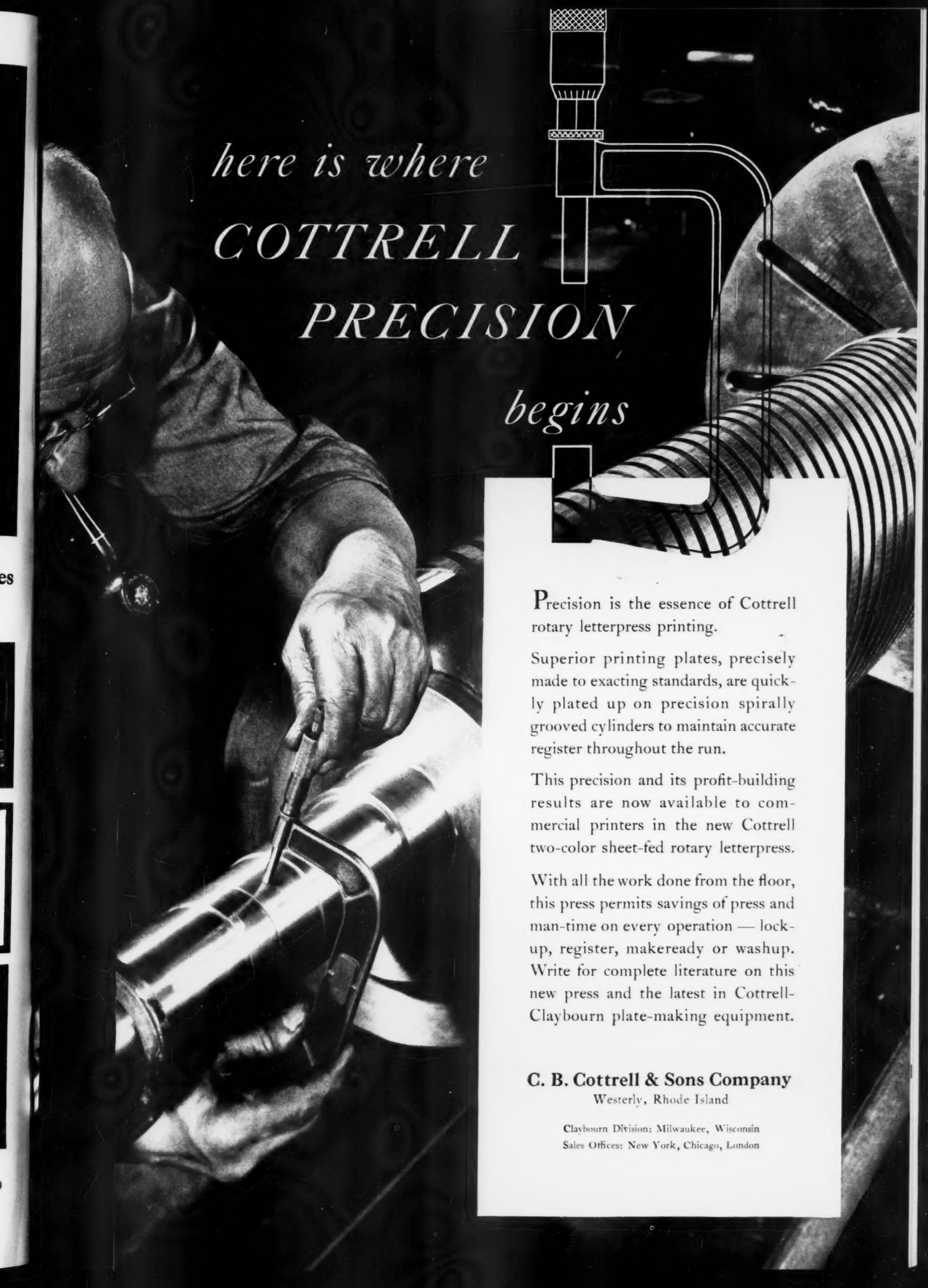
Machines for Printers, Lithographers and Binders



Precision is the essence of Cottrell rotary letterpress printing.

Superior printing plates, precisely made to exacting standards, are quickly plated up on precision spirally grooved cylinders to maintain accurate register throughout the run.

This precision and its profit-building results are now available to commercial printers in the new Cottrell two-color sheet-fed rotary letterpress.

With all the work done from the floor, this press permits savings of press and man-time on every operation — lock-up, register, makeready or washup. Write for complete literature on this new press and the latest in Cottrell-Claybourn plate-making equipment.

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FILMS CARBON TISSUE CAMERAS DARKROOM EQUIPMENT
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DEVELOPING EQUIPMENT ETCHING EQUIPMENT CHEMICALS
TOOLS AND SUPPLIES

PHOTO-MECHANICAL EQUIPMENT AND SUPPLIES

CHEMCO BURNING-IN OVEN AND COOLER MODEL 2800—A highly efficient Infra-Red heated oven available with the Chemco Stainless Steel cooler (choice of Diaphragm Type or Flow Type).

CHEMCO BURNING-IN OVEN AND COOLER

Infra-Red heating . . . automatic operation . . . . . ease of inspection . . . **each of these means increased efficiency and consistent economy in burning-in powdered zinc plates or hot top enamel used on copper.**

Infra-Red elements provide *even* burning-in for plates up to 24" x 24", and eliminate plate warpage and dimensional distortion. Automatic operation consumes power *only* when plate is in burning-in position. Inspection of plates may be made through a special window.

The Chemco Burning-In Oven and Cooler may be ordered with a foot-pump operated diaphragm type cooler or the flow type cooler using running water. Either type cools plates instantly.

Write for complete information now!

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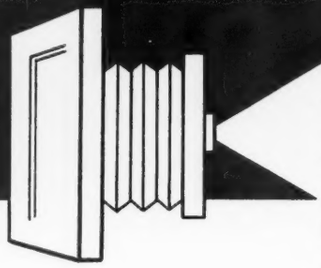
chemco PHOTOPRODUCTS COMPANY, INC. GLEN COVE, N. Y.

FACTORY AND GENERAL OFFICES GLEN COVE, NEW YORK



BRANCHES:
New York, Chicago, Detroit,
New Orleans, Boston, Atlanta, Dallas

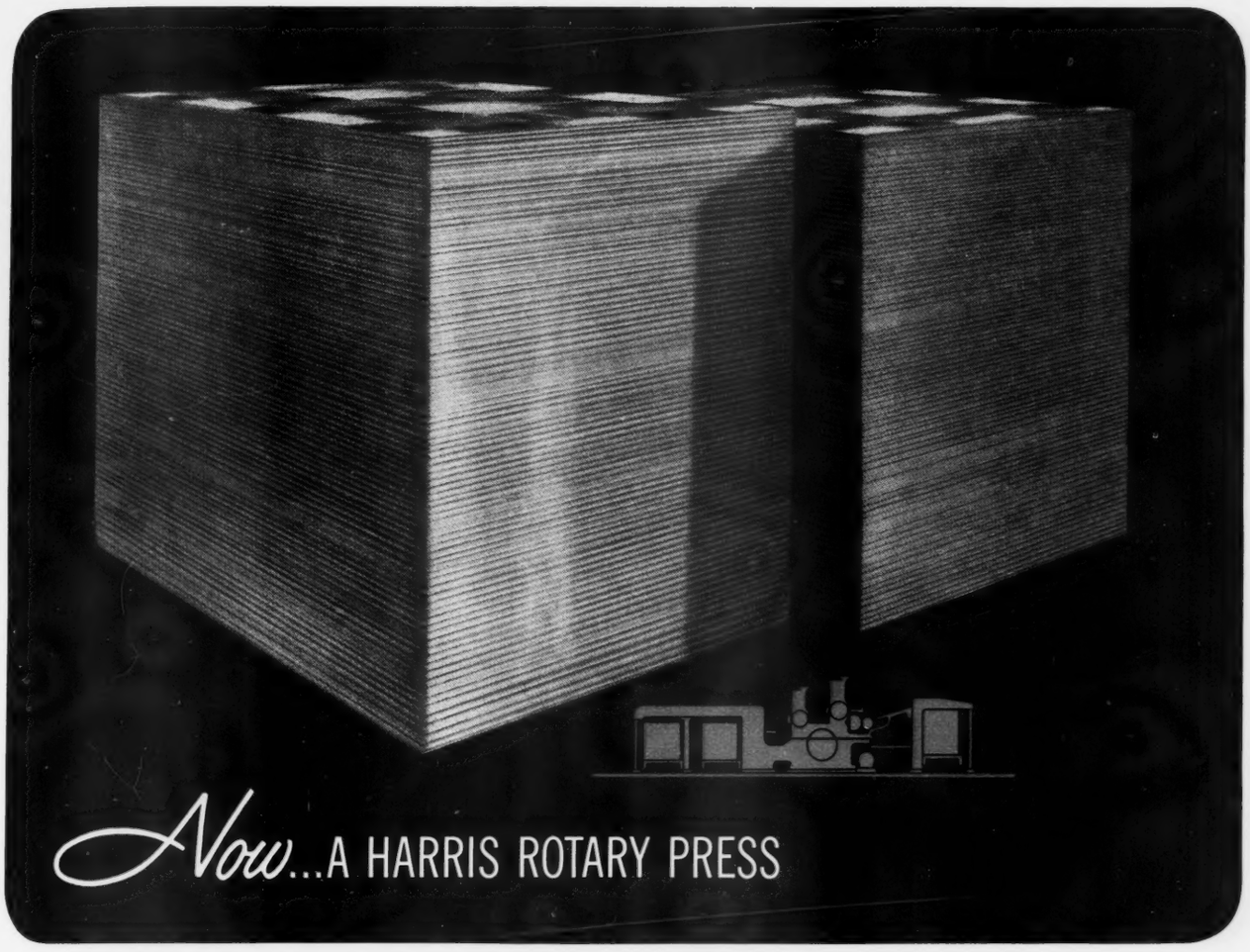
PE-11

CHEMCO PHOTOPRODUCTS CO., INC.
GLEN COVE, N. Y.

Gentlemen: I am interested in learning more about your following products:

_____
_____
_____

Name _____
Firm Name _____
Address _____
City _____ *State* _____



Now...A HARRIS ROTARY PRESS

with TWO DELIVERY PILES *for non-stop unloading*

Yes, *two* delivery piles! Sheets can be fed to either pile or both in this new double-delivery system. It allows twice as much drying time for finished sheets. It allows the piles to be unloaded without stopping the press.

This is just one of the special features of this new Harris two-color 45 x 65″ rotary letterpress.

For instance, *5 form rollers* on each color unit assure smooth, even coverage on the most difficult solids. *Standard plate cylinders* take plates from existing precision-platemaking equipment.

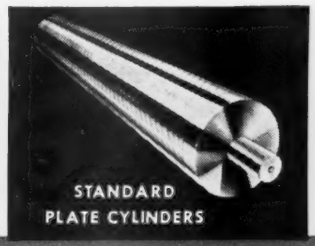
Sheets get less handling during transfer in this new Harris letterpress. A *single cylinder* between units, with the transfer grippers making only one grip and one release, protects register and prevents damage to sheets. Harris *feed roll* register system gives positive control of front register without damage to the sheet.

Your printing can be made more profitable. May we discuss how this new press can help?

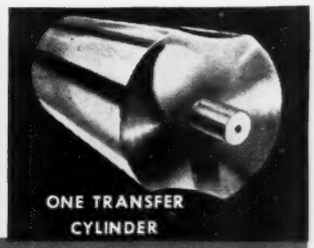
HARRIS-SEYBOLD COMPANY
DEPT. G, GENERAL OFFICES, CLEVELAND 5, OHIO

FIVE FORM ROLLS

FEED ROLL REGISTER



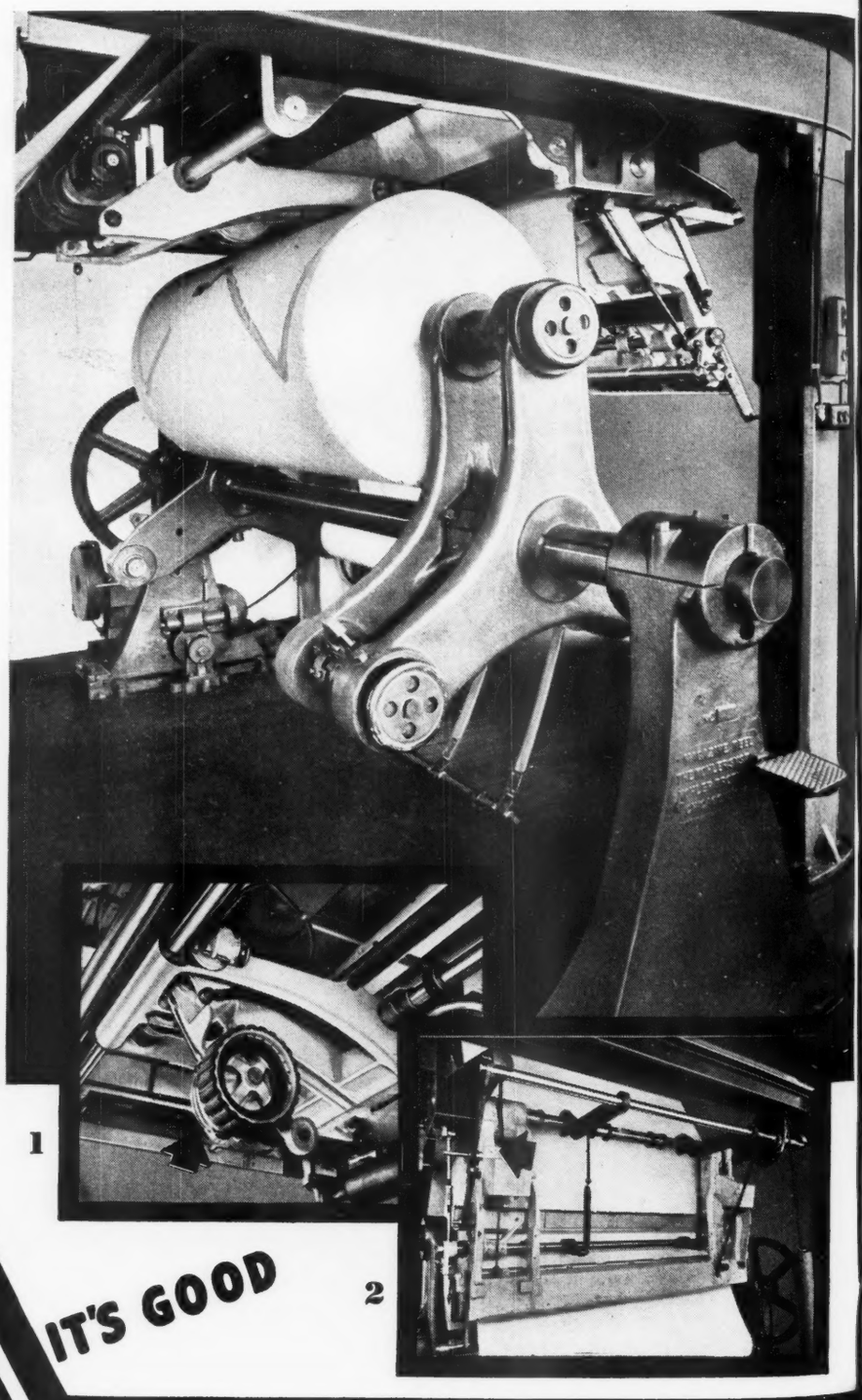
STANDARD PLATE CYLINDERS



ONE TRANSFER CYLINDER

CHECK THESE FEATURES WITH THE MEN WHO USE THEM

Announcing... THE NEW



Electro-tab Autopaster applied to old-type reel without any alteration or addition to reel. Dark patch on paper roll (left) is aluminum foil. Contact between foil and metal strips (above) starts actual splice after the new roll has reached web speed and operator has pressed "paste" button. Brush-and-knife arm (shown in raised position) is counterbalanced. After splicing, the arm moves to the raised position when the operator releases the toggle.

1

Single pivoted arm carries the rubber-covered, speed-up wheel and the two electrical contact strips (arrow) for Electro-tab's timing device. This arrangement completely divorces the Electro-tab from the reel with which it operates, allowing the Autopaster to be installed on any press substructure with the use of only two adapting brackets.

2

Electro-tab's counterbalanced brush-and-knife arm mounted on press substructure. When toggle (arrow) is broken, brush-and-knife arm swings back to inactive or raised position, automatically resetting the brush and knife.

1

2

IF IT'S Wood IT'S GOOD

Electro-tab AUTOPASTER

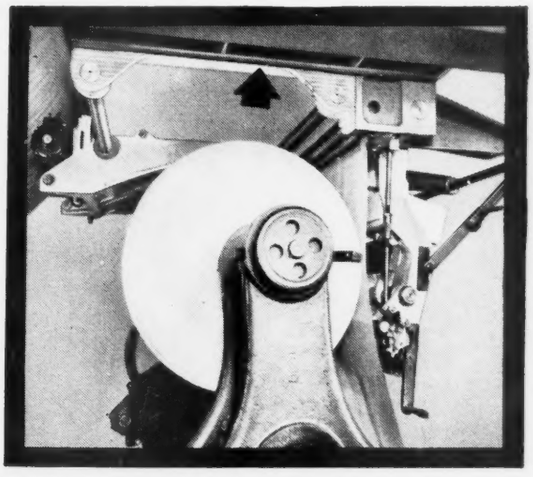
for installation on any make reel

The new WOOD Electro-tab Autopaster — economical to install — easy to operate — can be applied to any existing reel without *changing reel spiders . . . without attaching complicated timing devices and . . . without adding expensive drive connections.* In most cases, existing tensions can be used without alteration.

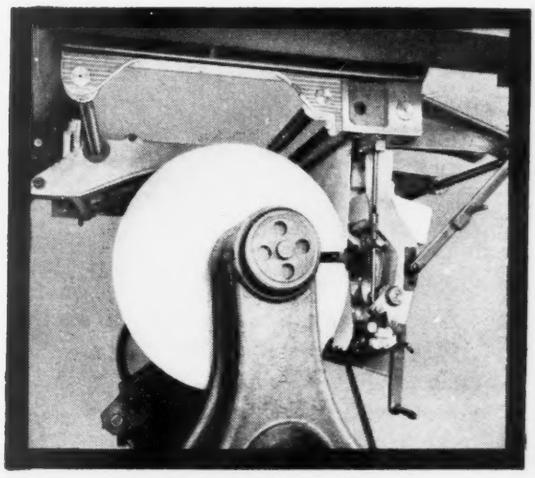
The Electro-tab Autopaster is a complete web splicing unit. It includes new-roll drive, timing device, pasting and web severing devices; and can accommodate a wide range of paper-roll widths and diameters. Moreover, Electro-tab's simple, effective design can be readily expanded or contracted to fit presses built for odd-web widths.

The cost of installing an Electro-tab Autopaster is cut to a fraction of the cost required for installing other makes and models. Electro-tab's three basic parts — drive, timing device and the brush-and-knife arm — are attached as a unit to your existing press substructure with just two adapting brackets.

Newspaper plants now splicing at threading speed, or less than FULL RUNNING SPEED — *or even those plants in need of better, more dependable equipment* — can enjoy the production advantages of full-speed web splicing without the heavy expense involved in adding or replacing major reel parts.



Brush-and-knife arm lowered against running web. Special generators hold new-roll speed and web speed in exact balance until splice is properly made. Two adapting brackets make the Electro-tab Autopaster applicable to any existing press substructure. One bracket is shown above. (Arrow)



The instant after the splice. Brush has made paste, with the knife severing old web a fraction of a turn later.

Write today for further information

WOOD NEWSPAPER MACHINERY CORPORATION

PLAINFIELD, NEW JERSEY • SALES OFFICE: 501 FIFTH AVENUE, NEW YORK 17

Speed-Flex

FASTEST AND MOST MODERN JOB PRESS

...designed to meet the requirements of the average printer

MODEL A

Model 'A' will handle one web, print, number and imprint in additional color, perforate both ways, and attach carbon.

A large proportion of modern form printing requires the use of one-time carbon.

Any modern job press should be equipped to produce this type of work, but ***Speed-Flex*** is suitable for all types of form printing with or without carbon interleaving.

Both Model 'A' and Model 'B' presses operate at a speed of 20,000 cutoffs per hour and produce a sheet 17 inches (fixed size) by any width from 5 to 15½ inches.

Speed-Flex presses are manufactured for Orville Dutro & Son, Inc., in the modern facilities of Western Gear Works, oldest and largest manufacturer of gear products in the west.

MODEL B

Model 'B' will handle two webs, print, number and imprint in additional color, perforate both ways, and attach one or two carbons.

For complete information on SPEED-FLEX presses, write or call Orville Dutro & Son, Inc., 1206 Maple Avenue, Los Angeles 15, Calif.

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Manufacturers of PACIFIC-WESTERN Gear Products

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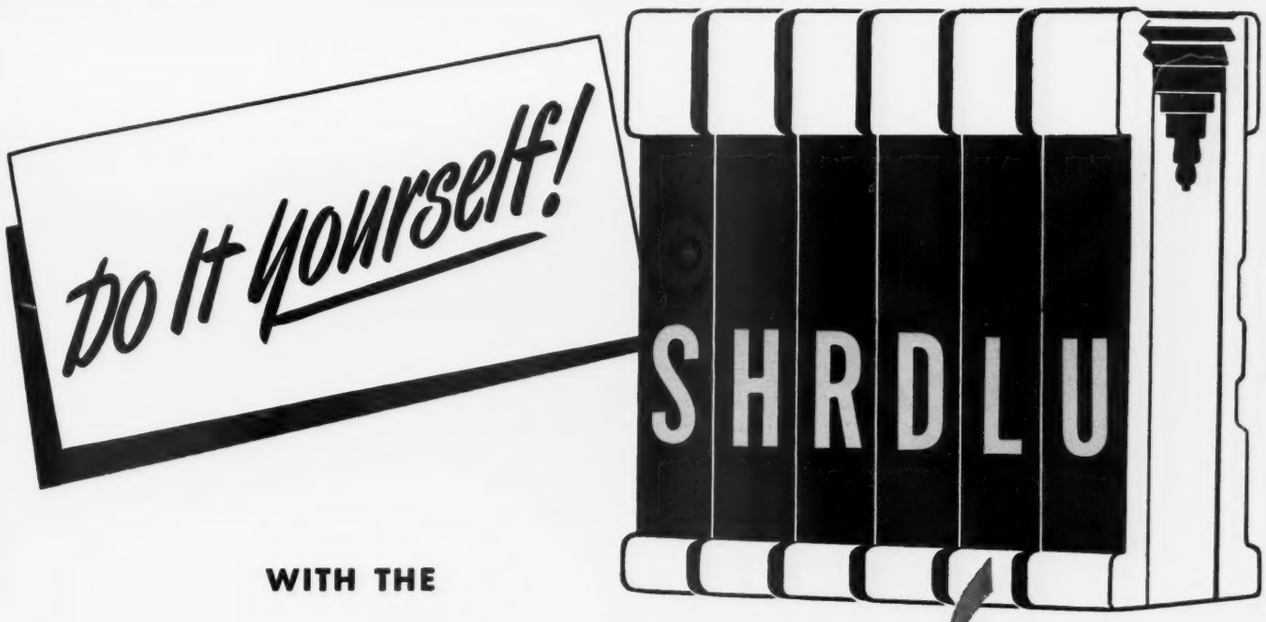


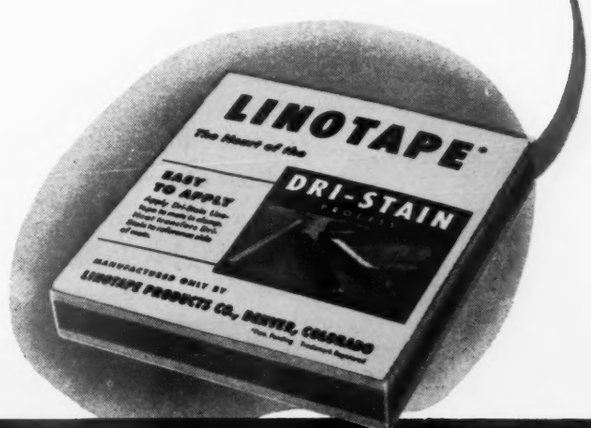
WITH THE

LINOTAPE DRI-STAIN PROCESS

Years of scientific knowledge and technical skill have been boiled down to a little piece of tape called LINOTAPE, the heart of this new shop process.

With the DRI-STAIN process you can now enjoy all the benefits* of contrasted mats, plus the advantages of doing them yourself in your own shop—and at times convenient to you. Anyone can do it by following the simple instructions.

Contrasted mats always save you money by reducing errors, eyestrain and fatigue, and increasing production.



Demonstrated at the
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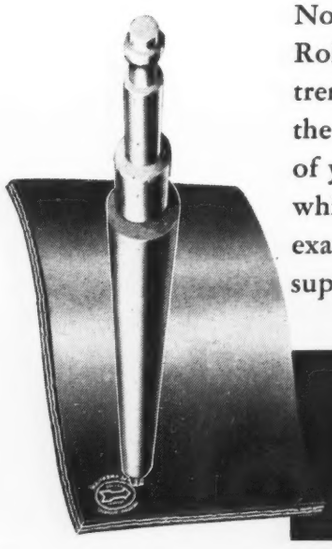
For any job... for all jobs...!

MERCURY PRODUCTS give you finest performance

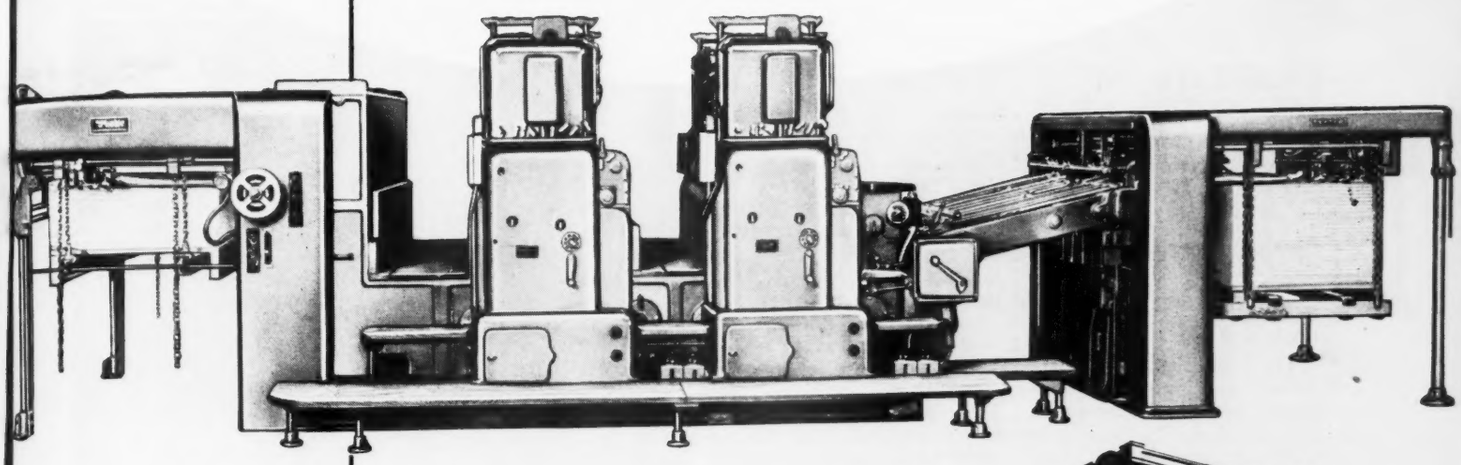


No matter what your printing needs may be, versatile Mercury Rollers and Blankets can fill the bill. Mercury Rollers have tremendous ink-carrying capacity—and release ink instantly, on the slightest contact, in the exact proportions required for each part of your form. And the perfect texture and amazing affinity for ink which characterize Mercury Blankets further assure the most exact coverage in the precise depth desired. Use these superior products—to make every impression a masterpiece!

RAPID ROLLER COMPANY

D. M. RAPPORT, Pres. Federal at 26th Street CHICAGO 16

MIEHLE sets the pace



Plant of Brett Lithographing Co.
Long Island City, New York

WILLIAM WINSHIP,
Vice-President
of Brett Lithographing Co., says,

"We find our new Miehle Offsets are setting the production pace in our plant. Their higher speeds and continuous operation have solved the tough problem of increasing our production. Our pressroom is now boasting of turning out more printed sheets per day of consistently high quality—thanks to our dependable, hard-working Miehles."

MIEHLE OFFSET PRESSES...BUILT IN TWO SIZES

- **Unit Construction—Single and Multi-Color**
- **The No. 61—Maximum sheet 42"x 58"—Speeds up to 6500**
- **The No. 76—Maximum sheet 52"x 76"—Speeds up to 6000**

the Miehle

MIEHLE PRINTING PRESS & MANUFACTURING COMPANY

Builders of Offset Presses for more than a Quarter Century

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Keeping in Touch

International Printing Ink ®

31 Branch Offices in Principal Cities

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NEW IPI HOLDFAST HALFTONE BLACKS PICKED TO PRINT FILMY VEILS, LACES

Williams Printing Co. Solves Tough Halftone Printing Problem

Ever print a bookful of halftones of filmy veils, fine laces and delicate tiaras? It's a tough problem but easy to solve with the help of IPI.

The Williams Printing Co. of Chicago has printed many catalogs full of such halftones with IPI Holdfast Blacks for the Chicago Bead Works. And every one is an outstanding job.

This year the Williams Printing Co. will print "Veils for the Bride" with one of the new, improved IPI Holdfast Blacks. These are the blacks that set up faster in the pile for safer load handling immediately after printing—are more scratch proof and more rub resistant than ever before.

Another feature is greatly reduced color transfer. And the finer pigment dispersion of new IPI Holdfast Halftone Blacks gives a blacker black without bronzing.

FAMOUS CELANESE® YARN FASHION ADS PREPRINTED WITH SPARKLING GEMTONE

Typographic Service Co. Gets Rich Colors, Premium Finish With Gemtone Inks

The reproductions are as rich, as colorful and as perfect as the fabrics themselves. That's how good they are—these preprints of high fashion ads for Celanese Corporation of America.

The Typographic Service Company of New York City preprints these fine ads with IPI Gemtone process inks on Miehle Vertical and Kelly #2 presses. Paper is 70 lb. Cumberland Gloss.

The skilled craftsmen of this leading company rate Gemtone inks as worthy partners of the finest engraving, the highest quality printing and the best available stocks. With Gemtone, they know that colors sparkle, halftone dots stay sharp and highlights bright.

As with all Gemtone printed work, these Celanese preprints have a "premium finish" and realistic illusion of depth. The texture and finish of each fabric stand out as in real life. Satins and jerseys look like satins and jerseys.

Gemtone process inks dry fast on top of the sheet without heat. That's why they end dryback, the tendency of even the best conventional process inks to penetrate into the stock. And Gemtone inks just won't crystalize. They trap beautifully even after long delays between colors. This feature is important to printers who run high quality work on single color presses.

Printers everywhere tell us that IPI Gemtone inks are tops for 4-color process printing on sheet-fed presses. They are a gem in the pressroom. Ask your IPI salesman or write us today at the address above for free Gemtone Comparison Folder.

WILL THERE BE SHORTAGES OF PRINTING INKS?

As far as we can see, there will be no shortages of printing inks—colors or blacks. But we are running into difficulties. It's not because of Korea or U. S. defense—although these have aggravated the problems. The chief reason is an unprecedented demand. Why? Warehousing? Hoarding? Fear of rises? Scare buying? We don't know, frankly. There is the same demand for raw materials to make printing inks—producing shortages, high prices—even black markets in some. Raw material suppliers have been forced to set up voluntary rationing.

Manufacturers of all pigments have been handicapped by long strikes in plants producing alkalis essential to their production. Estimates claim soda ash production down 60%. The strikes are being settled, but their effects will be felt for some time.

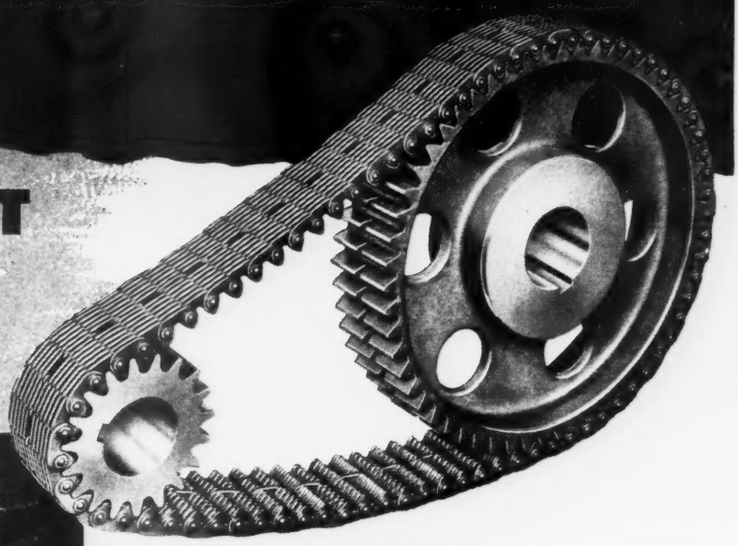
Blacks and organic pigments are not critical at the moment. Vehicles—oils and resins—are in good supply or adequate.

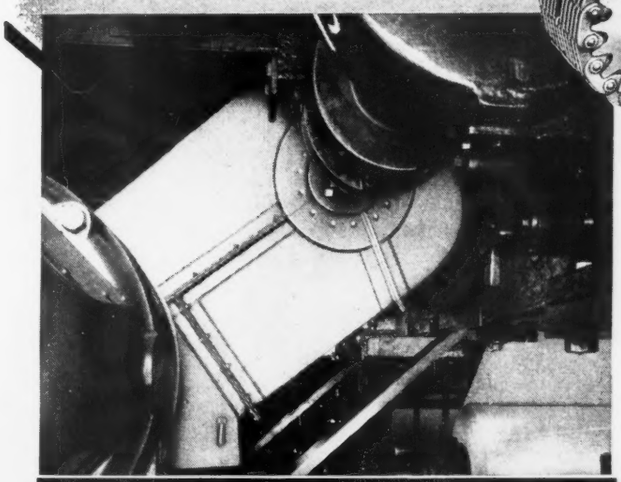
We are reasonably sure that we shall be able to meet the demands of our customers—large and small. IPI has based its business on research, working continuously to find new materials and improved formulations. During World War II none of our regular customers suffered unduly. We intend to keep up that record. Which is why it pays to "Keep in Touch with IPI".

THE PROVED DRIVE

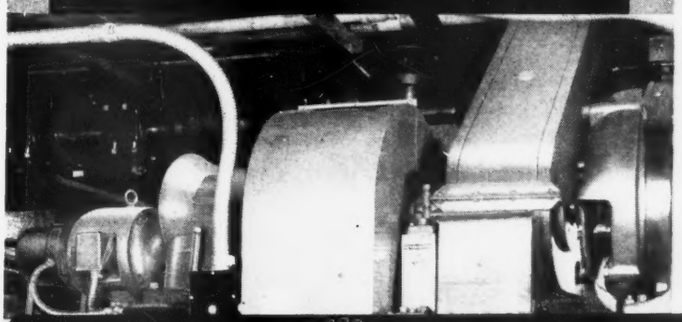
LINK-BELT *Silverstreak*

SILENT CHAIN DRIVE





One of four Link-Belt Silverstreak Silent Chain Drives on presses of the Indianapolis Times. It connects the main press drive shaft with both a Link-Belt Gearmotor and a large main motor. The Gearmotor is used for starting and for inching and threading the paper, being able to overcome the high torque at moderate speeds. The main motor picks up the load automatically through an over-running clutch when the proper speed is attained.



and Accepted for These Reasons:

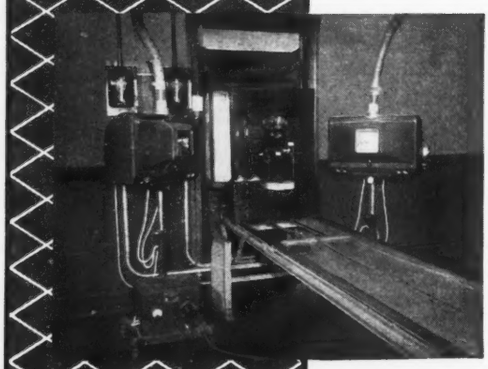
- **ACCURATE REGISTER**
- **EFFICIENT POWER TRANSMISSION**
- **SPEED WITHOUT SLIP**
- **CONSERVES SPACE**
- **EASY TO INSTALL**
- **MINIMAL ATTENTION**
- **LONG LIFE**
- **LOW FIRST COST**
- ***A LINK-BELT ENGINEER IS NEAR TO SERVE YOU***

LINK-BELT COMPANY

Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Johannesburg. Offices in Principal Cities. 12.154

LINK-BELT *Silverstreak*

SILENT CHAIN DRIVES



NO ARC LAMPS

Have Ever Won Such Wide Acceptance

9 out of 10 motor-driven arc lamps used by the industry are

STRONG GRAFARC

FULLY AUTOMATIC • HIGH INTENSITY

ARC LAMPS

IN YOUR PLATE MAKING DEPARTMENT

Cut exposure time in half. Assure sharper prints. Freedom from dot undercutting is made possible by the single arc combined with the cross-over of the reflected light rays. Models for vertical and horizontal printing frames.

IN YOUR CAMERA GALLERY

Provide uniform illumination on work of any size. Extreme steadiness of light volume—constant color temperatures. Eliminate the illumination variable in the accurate control of densities. Have the power to punch through dense Kodachromes.

ON STEP AND REPEAT MACHINES

With precise control of intensity, accurate repeats become routine.

★ ★ ★

Models for all photo-mechanical reproduction processes. Adapters to fit most cameras and photo-composing machines. Because of the low current requirement, the present line supply wiring to your equipment is usually adequate.

★ OVERSIZE CARRIAGE SLIDE BEARINGS. Large ball bearing motor. Bakelite gears on hardened steel worms. Heavy gauge sheet metal and aluminum cast housing.

★ MODERN SILVERED GLASS REFLECTOR. Higher reflectivity compared to a metal reflector results in approximately twice the light per arc watt.

★ ARC STEADINESS. The result of using high intensity carbons in a draft-shielded horizontal trim.

★ NO VACUUM TUBES OR RELAYS. The current and voltage of the arc directly control the feed motor speed.

Free Trial Offer

THE STRONG ELECTRIC CORPORATION

307 City Park Avenue Toledo 2, Ohio

☐ I wish to take advantage of your FREE trial offer on Grafarc Lamps without obligation to purchase.

☐ Please send free literature and prices on Grafarc Lamps.

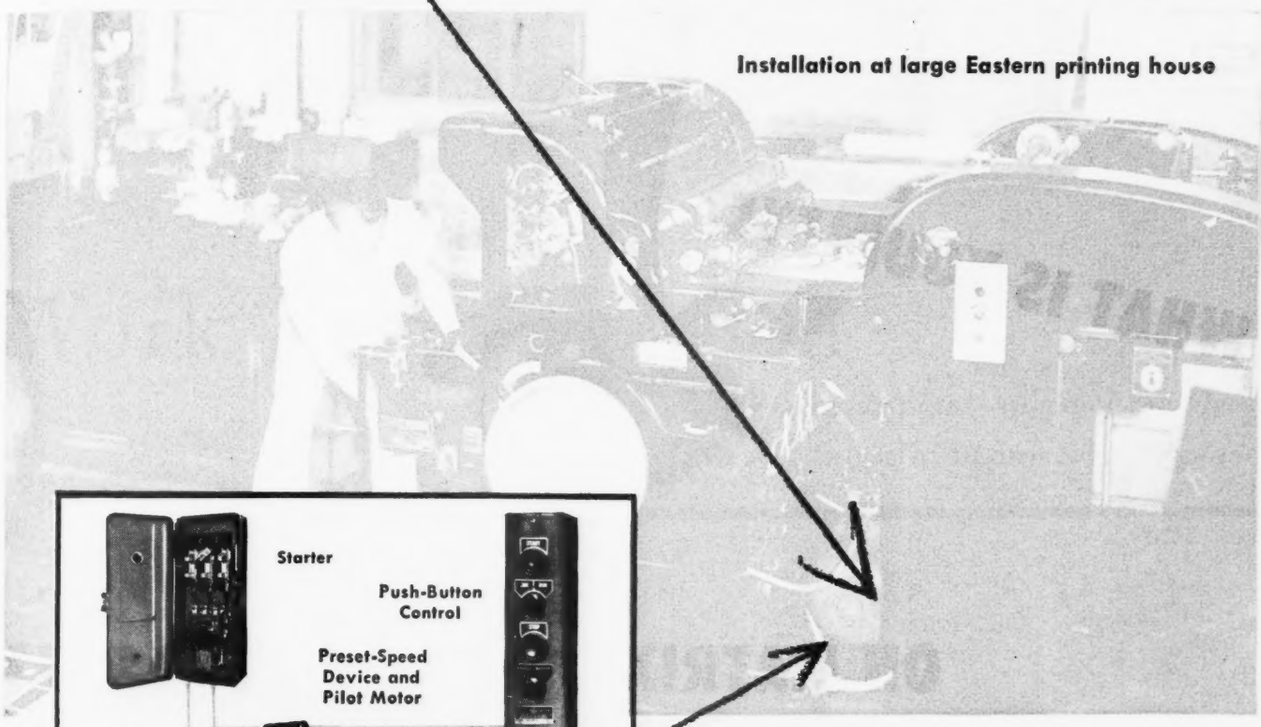
NAME.....

FIRM.....

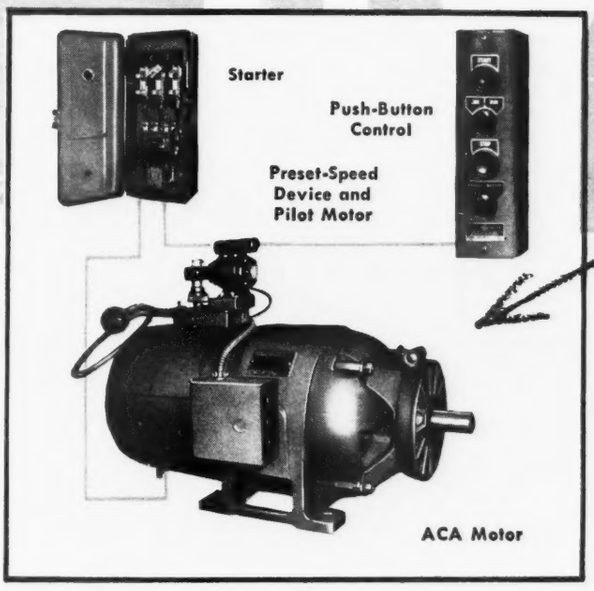
STREET.....

CITY.....STATE.....

New FLEXIBILITY for Offset Presses



Installation at large Eastern printing house



G-E Adjustable-Speed ACA Drive gives wide speed range . . . close speed control

D-C SHUNT CHARACTERISTICS with a-c power advantages . . . holds virtually the same smooth speed under varying press loads.

LESS EXPENSIVE ON ALL COUNTS:

1. On 5, 10, and 15 hp. sizes, initial cost is the same or lower than other drives.
2. Installation cost is much lower since the size of the control unit is about 10% the size of the usual press drives . . . allows press mounting.
3. Maintenance cost is cut to a bare minimum since the control has fewer components . . . no resistors or tubes to burn out or give off heat in controller.

WIDE SPEED RANGE. Printing speed ranges of 3-1; 6-1, and 20-1 are available with the new ACA drive. Slowdown and quick stopping features are also available.

HERE'S ALL YOU NEED

Now the time-tested adjustable-speed (Type ACA) motor with built-in preset speed adjustment is combined with pilot motor and control unit. Can be furnished with motor mounted adjustable brake as shown.

For immediate information concerning this push-and-drive system, contact the printing specialist in your nearest G-E office or write now for our bulletin GEA-4851. Apparatus Department, Section 652-8, General Electric Company, Schenectady 5, N. Y.

GENERAL ELECTRIC

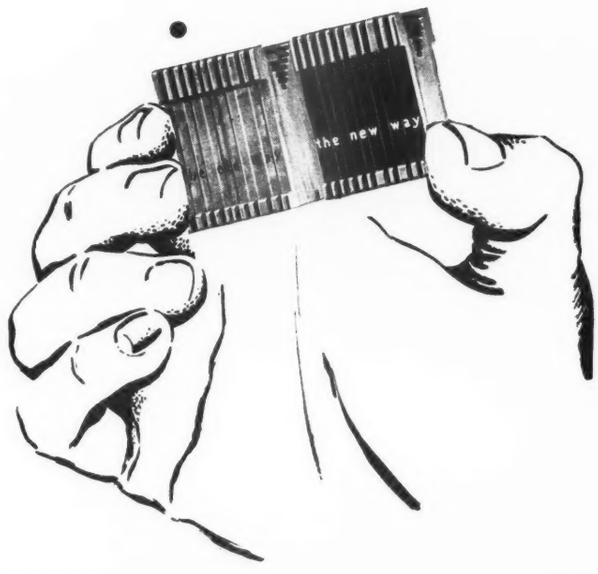
653-8

WHAT IS YOUR EYE Q ON MATRIX *Contrast* SERVICE?

IF YOU haven't looked into Matrix Contrast Service lately, you'll find that it is worth more to you today because of your greatly increased operating costs. Match its yearly costs against your savings of one-third of all errors in machine composition and you'll be way ahead with Matrix Contrast Service.

Black and White Contrast matrices have a visibility approximately equivalent to 9½-point type . . . as compared to used non-processed matrices which have a visibility equivalent to 3-point type under the same test conditions. This proves that operators can "see what they set" when machines are equipped with sharp, clean-etched Matrix Contrast reference marks. And now, with the new and improved Matrix Contrast Colors, operators can tell at a glance if there's a "wrong-font" in the line . . . you can't miss the bright contrasting colors.

Write to our nearest office for facts and figures on the low cost of using Matrix Contrast Service and the amazing savings in errors directly attributable to its use.



MATRIX CONTRAST SERVICE

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PRINTING
EQUIPMENT
Engineer
November 1950

Work Simplification

in a lithographic plant—some of the ideas shown will be useful in any printing plant

By **FRANK A. MYERS***

**Treasurer, Copifyer Lithograph Corp., Cleveland. Abstract of address delivered before NAPL Convention, Washington, D. C., October 1950.*

WORK Simplification is defined as "The organized use of common sense to find easier and better ways of doing work." Work Simplification is *not* a speed-up program. It does *not* mean asking anyone to work harder or faster.

We've had lots of jobs in our plant where our employees appeared to be working like beavers. They went home tired at night. Now, after we have applied Work Simplification to these jobs, our employees look like they are loafing. Yet they are turning out more work—and with less effort. Through Work Simplification we eliminated the *unnecessary* work.

Getting Ideas Accepted

Allan H. Mogensen is known as the father of Work Simplification. I first heard him speak in Cleveland three years ago. He started his address by saying "I'm not going to talk about the principles of methods engineering. *Anybody* can figure out better ways of doing a job. The principles of Work Simplification are all published." He then outlined the reasons why perfectly sound methods engineering often doesn't work. It's because it isn't properly sold to the man at the bench—it isn't sold to the union—it isn't properly sold to management. Mogensen spent the entire evening hammering home the point that getting the *acceptance* of a new and better method is just as important as *developing* the new method.

At Copifyer we had for years been working out better job methods. Many a time I figured out a hot new idea. To me the advantages of *my* idea were as plain as day. But the superintendent or the foreman, or the workman didn't think *my* idea was any good. Even though *I* could make it work, and *insisted* the new method be tried, it would often fall into disuse in a week or so. It didn't take, because it hadn't been *accepted.*

Three Important Points

Now when Mogensen showed how important the *acceptance* of a new idea is, I realized that I had largely overlooked the human relations angle. I hadn't spent enough time selling the individual on what there was in it for him. *I* had been taking all the credit for the new idea. I had overlooked the following three important points.

1.—*People resist change.* My wife had always resisted vigorously any of my suggestions about more efficient ways of her doing the housework. Yet I had felt that all our shop employees were open-minded. I thought they would change their work habits as soon as a better way was found. When they didn't change fast, I thought they were uncooperative.

2.—*People resent criticism.* It was a surprise to me to find that people actually resented my suggestions. I thought they would realize instinctively that I was trying to help them do the job easier. They thought I was criticizing them, because I didn t explain the reasons "why" for the change.

3.—*People will fight for their own idea more than for your idea.* I was pushing *my* ideas. Our employees were lukewarm because it wasn't *their* idea. To me this is one of the most important points that Mogensen covers in his approach to Work Simplification.

Let's follow that a little further. During the last war an opinion survey was made among workers in the Pittsburgh area. One of the questions asked was "Who do you hate the most?" Here's the score:

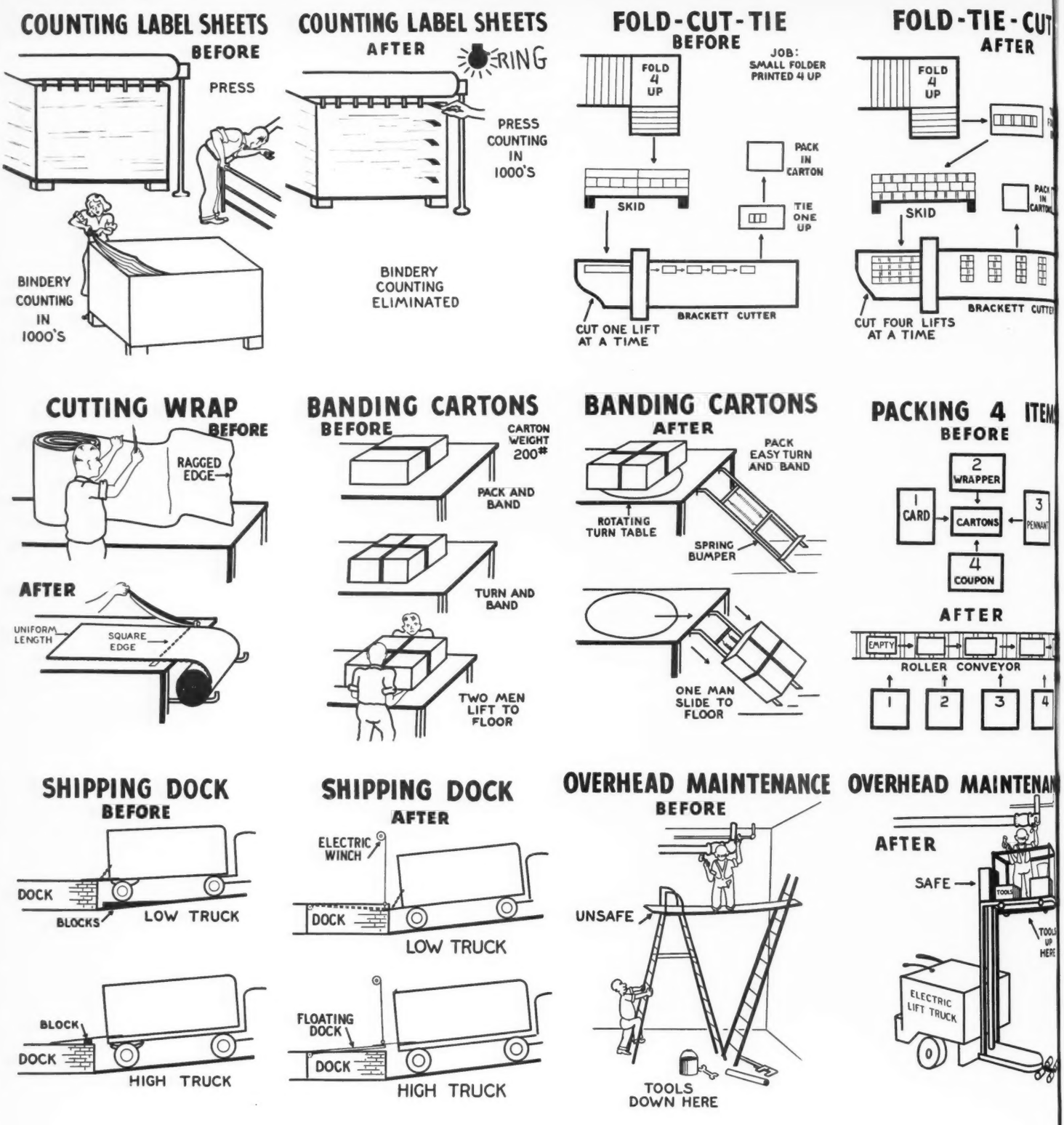
First: The Nazis
Second: The Japs
Third: Efficiency Engineers

To the average workman the efficiency expert is an SOB with a stop watch. Suppose the outside expert goes into a lithographic plant and says to top management: "*I* can save you $10 thousand the first year on the operations in your plant." This is the same as saying to the superintendent, "*You* are wasting $10 thousand of the company's profits every year." Is it any wonder the superintendent goes out of his way to sabotage the efficiency program and make sure the improved methods do not work? Everybody resents an outside expert telling him how to do his job. In the shop, the men often resent experts from the front office who never worked at the bench. "Who are you to tell me how to do this job better? I've been 30 years in the business." That's what goes through your employee's head, even though he doesn't say it out loud.

Indirect Approach

Mogensen tried the indirect approach in selling people on better methods en-

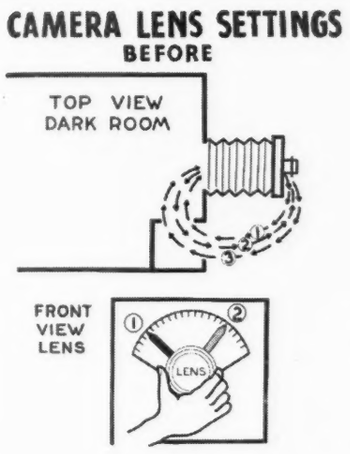
(*Continued on Page 26*)

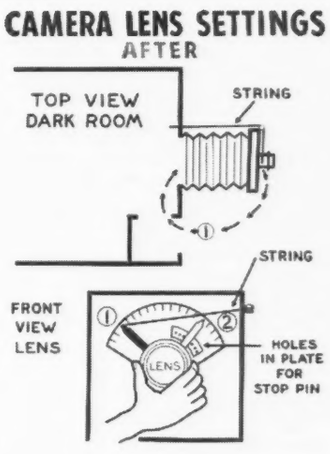


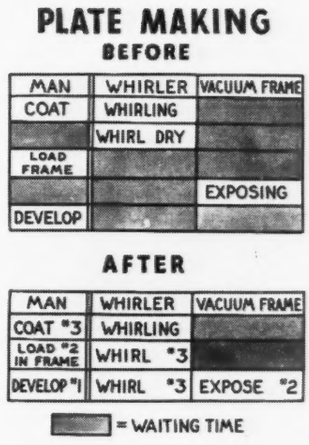
Work Simplification —

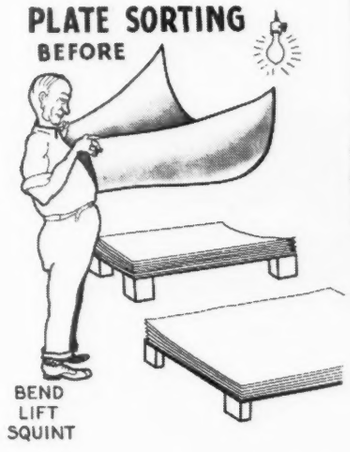
On this page and page 25 are reproduced a number of Work Simplification ideas developed by employees in the plant of Copifyer Lithograph Corp., Cleveland. As all types of printing plant executives will see, some of these ideas can be put into execution in their own plants with employee cooperation.

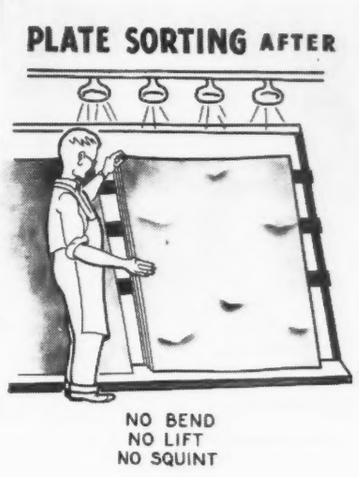
(*See also pages 23-26*)

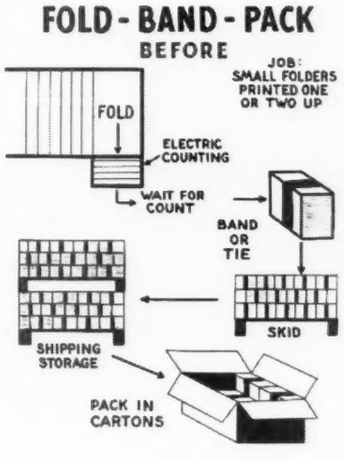


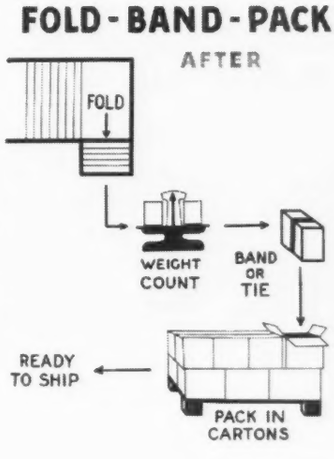


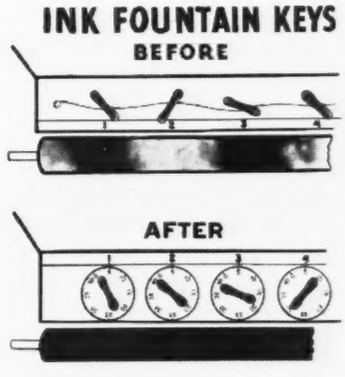












Work Simplification —

On this page and page 24 are reproduced a number of Work Simplification ideas developed by employees in the plant of Copifyer Lithograph Corp., Cleveland. These methods were discussed by Frank A. Myers before the NAPL Washington, D. C. convention in October. Some of these can be put into effect in any printing plant. (*See also pages 23-26*)

Work Simplification

(Continued from Page 23)

See also Pages 24-25

gineering. Whenever he went into a plant he was *not* introduced as an *expert*. At first the men probably thought he "didn't know from nuthin" because he asked so many questions. He asked the guy on the job questions about how the job was done—why it was done that way—how it could be done better. He acted as a catalyst instead of an expert.

Sometimes he found the worker had some ideas on improving his job. He'd been trying to sell the foreman for years. But the foreman was afraid to take the "crazy idea" to his boss for fear it might not work, and he would be criticized.

Usually Mogensen found present job methods being accepted because they had always been done that way. By dropping ideas indirectly, by asking questions, he found he could gradually open the worker's eyes and he started to analyze his own job. Then maybe six months later the worker would come up and say, "Say, I just got a hot idea." Then says Mogensen, you have to bite your lip to keep from saying "You darned fool, I've been trying to tell you that for six months!" You have to keep a straight face and say "That sounds good, tell me more about it." It's now the *worker's* idea, and he'd really fight to make it succeed.

This indirect approach of selling ideas isn't new. Benjamin Franklin tells in his autobiograph that he never advanced any ideas in politics as if they were his own. He always offered them as an idea some friends of his had told him about. Often he would go on to express doubts about whether the idea would work. Usually that made the listener eager to convince him that the proposed idea was good. Out of these indirect and improved ways of selling methods-engineering, Mogensen developed the philosophy back of Work Simplification, and that is, let better methods be developed by the man on the job, rather than by the outside expert.

Copifyer Training Course

In 1948 the Cleveland chapter of SAM (Society of Advancement of Management) conducted a nine meeting course in Work Simplification. The leaders of the course were graduates of Mogensen's six-week intensive course, which he conducts at Lake Placid, N. Y.

Copifyer's delegation consisted of our production manager, our superintendent, nine of our shop foremen, and myself. We learned the five step pattern for improving work methods. This is also the outline used for the Job Methods courses in the Training-Within-Industry program that the government sponsored in the last war. We saw lots of movies of job operations. We saw how the job was done *before*, and how the job was done *after* Work Simplification had been applied. In analyzing a job we learned to "why" the hell out of every operation. After seeing movies of such a wide variety of jobs, in so many different industries, our foremen came to realize that even in lithography, and even in their *own* department there *might* be a better way of doing work. We learned one of the basic slogans of Work Simplification, which is "There is always a better way".

Not a Package Deal

But most important of all, we learned that Work Simplification is not a package deal. First, you must develop a management philosophy and establish management policies to answer questions such as the following:

1. *What's in it for me?* With the average employee this will probably be the first question. If your employee is already bursting with good ideas the money reward angle will probably be second or third on the list. Some plants pay a certain percentage of the first year's savings resulting from the new method. At Copifyer we have a profit-sharing plan. We pay a share of profits in addition to prevailing union wages.

You should give credit where credit is due. Don't overlook the value to the employee of recognition—a pat on the back for a good idea. If you give an employee a chance to feel that he is participating in the operation of your company you increase his job satisfaction. When you increase an employee's job satisfaction, you increase his ability, and his *desire* to produce.

Job Security

2.—*How about job security?* asks the Union. Too often in the past management has encouraged employees to increase their productivity. Then when employees developed more efficient methods, the piece rate was cut—or employees were laid off. Unions are always worried about their members working themselves out of a job. Our lithographic union contract clause prohibiting piece work is a reminder of bad management practice in the past.

If you lay people off after Work Simplification improvements, then your program stops right there. Loyalty works both ways. Under a proper Work Simplification program, even though you don't need as many employees as before the job was improved, you still don't fire any of them. You keep them on the payroll. Some you can retrain and transfer to other jobs. As employees leave your employ, due to normal turnover, or marriage, or death, you just don't replace them. Of course, with the strong industrial growth we have in lithography (when business is good) you can usually increase your sales volume to provide additional work.

What It Shows Employees

Work Simplification helps to show your employees that their job is dependent on a continual whittling down of production costs. That is the basis of our free enterprise system. Since no company has a monopoly in lithography you *have* to improve in order to survive in business. As a worker the only way you can increase your standard of living is to increase your productivity. If you just increase wages, then prices go up, too, and you are no better off. But your employee must have definite assurance from management that he won't be fired if he *does* increase his productivity.

3.—*Will it work in a lithographic plant?* asks management. In addition to selling the employee and the union, you have to sell management. Many of you are probably saying to yourselves "The human relations approach sounds interesting, but the rest of Work Simplification sounds just like efficiency engineering to me. We've had our belly full of efficiency experts. That's all right for auto manufacturing and mass production. But it won't work in lithography—not in *my* plant." That's the same reaction our foremen had, I am sure, before they took the Work Simplification course—"it won't work in *my* department". Even after taking the course, our best suggestions for improvement come from the foreman in another department. That same foreman is inclined to be blind to improvements that he can make in his own department. That's only human nature.

A number of printing plants are conducting Work Simplification programs: Standard Register and Reynolds and Reynolds in Dayton; Sunset-McKee on the west coast; Western Printing & Lithographing at Racine and Summerville of Canada.

Our program at Copifyer is a modest one. We have about 100 employees. We make our own plates and operate our own bindery. Some departments, like the bindery, offer bigger opportunity to simplify work—because there are so many hand operations.

On the accompanying charts I have purposely picked improvements made *by our employees* in six different departments: Camera, plate, press, bindery, shipping and maintenance. Wherever work is done there is a better way.

Correction

In a news item appearing on page 70, October issue of *Printing Equipment Engineer*, it was stated that Hills-McCanna Co., Chicago, had purchased the Miller-Lauffer Printing Equipment Corp., 280 Lafayette St., New York 12, N. Y.

The statement was in error. It now is announced that Hills-McCanna has purchased manufacturing and distributing rights only for the Tally-Tab from Miller-Lauffer. The Tally-Tab device counts the delivery of sheets from flatbed presses and inserts a marker tab between the predetermined number of sheets automatically.

The Miller-Lauffer Printing Equipment Corp., it is announced, will continue the manufacture of envelope printing presses and incidental products.

Photo-Engravers Gird Loins

For coming competition — 1950 convention of American Photoengravers Assoc. marks beginning of new photoengraving industry.

By LOUIS FLADER*

**Photoengraving Consultant, Chicago.*

THE Chalfonte-Haddon Hall Hotels in Atlantic City, N. J. housed the Fifty-Fourth Annual Convention of the American Photoengravers Assoc., October 9, 10 and 11. This organization noted for the large attendance at its annual meetings broke all records on this occasion. Close to 1000 persons were registered, which together with guests, brought the attendance figure up to approx. 1200. Two-hundred and ninety-four members, almost 50% of the total membership of the association, and 42 non-member firms were present. They came from 122 different cities located in 34 states. In addition, there were 49 foreign visitors from Canada, England, Denmark, Switzerland, Sweden and Venezuela.

Manufacturer Exhibits

Aside from the business program, the outstanding feature of the annual conventions is the exhibition of photoengravers' machinery, equipment, materials and supplies. The exhibition in connection with the Atlantic City Convention was unusually large, well diversified, splendidly arranged and housed. There was ample space, good light and ventilation, and the exhibitors were highly pleased. Practically everything in the way of machinery, equipment, and materials used in photoengraving was displayed. The business program and entertainment features were so arranged that there was ample time to view the exhibits.

"Secrets" Eliminated

Photoengraving is both an art and a craft. In its early stages of development the machinery, equipment and materials used were simple and crude in the main. Science and engineering played a minor part in its production. Much of the equipment was built by photoengravers themselves, each following his own inclinations and notions. There was little or no effort toward standardization of anything connected with photoengraving. Craftsmen developed individual skills and many of the operations were conducted in secret. It took years to get away from the fog of uncertainty and mystery that surrounded photoengraving. In the last 30 years or more, through the efforts of the American Photoengravers Assoc., the curtain of secrecy was lifted and standardization took root. Today there are no so-called secrets in photoengraving.

It is generally believed that necessity is the mother of invention and necessity is responsible for all of the progress that has been made in late years in photoengraving. Employers have been confronted with the progressive shortening of working hours and service periods, together with increased labor costs on one hand and with the inroads made by competitive processes on the other. Therefore, they were compelled to seek ways and means to meet these menacing conditions. They realized as never before that photoengravings as such have no market other than as one of the major supplies in letterpress printing. They engaged in research for the purpose of tailoring their products to fit snugly into the letterpress assembly line. This brought with it changes in equipment, materials and methods never dreamed of before.

Plates Will Compete With Rival Processes

The attitude displayed by those who attended the Atlantic City Convention and the actions taken thereat left an indelible impression that the photoengravers are determined to so improve their methods and products that they will be of far greater aid to the letterpress printing industry than ever before. The many addresses made during the convention all point in that direction. Photoengravers are going to make plates that will enable the letterpress printers to compete with all rival processes. The Atlantic City Convention marks the beginning of a new photoengraving industry.

The Business Program, covering three days, contained twenty-one speakers and a Photoengraving Production Panel composed of six members. Fourteen speakers dealt with technical problems and seven focused on management.

Technology of Industry

Frank F. Pfeiffer, Vice President, The Reynolds & Reynolds Co., Dayton, O., dealt with *Technical Trends in the Graphic Arts*. His remarks were all embrasive, based upon close study, observation and experience. Joseph Chanko, General Mgr., The Conde' Nast Press, and Chairman of the Engraving Standards Committee, Printing Industry of America, Inc., dealt with the *PIA Photoengraving Specifications Manual* and developed a well rounded address.

Nathaniel Bishop, Electronic Consultant, Springdale Laboratory, Time, Inc., Springdale, Conn., introduced a revolutionary method, his remarks being entitled, *Electronics and Scanning for Improved Color Separations*. This is a new development and the result of years of research and experimentation on the part of Time, Inc. and Eastman Kodak Company, which substitutes the separation of colors in the production of color process engravings by electronic means for the photographic operations and methods hitherto employed. Several machines for this purpose are in use and the results obtained are very promising. F. L. Wurz-

PHOTOENGRAVERS ELECT

The following officers and executive committee were elected for the ensuing year at the Atlantic City meeting of the American Photoengravers Assoc.:

President, Wallaston K. James, Philadelphia.

First Vice President, Duff H. Murnik, Oakland, Calif.

Second Vice President, Peter Schotanus, Detroit.

Secretary-Treasurer, Clarence G. Rohrich, Akron, O.

Executive Committee — Addis Dempsey, Boston; George Hoffmann, Savannah, Ga.; A. P. Regitz, Chicago; Joseph Rosenberg, New York, N. Y.; R. C. Walker, Tulsa, Okla.; Henry Watkins, St. Louis.

Cincinnati was chosen as the site of the 1951 annual convention.

One of the exhibits at the recent convention of the American Photoengravers Association in Atlantic City, N. J., was that of Vandercook & Sons, Inc. The four-color engravers proof press is shown here. It was demonstrated in actual operation.

burg, Jr., Precision Color Laboratory of Interchemical Corporation, Buchanan, N. Y.; also spoke on *Electronic Color Correction*, as did W. W. Watts, Vice President in Charge of the Engineering Products Dept., RCA Victor Div., Radio Corporation of America, Camden, N. J. These speakers thoroughly explained color separation by electronic means and fairly startled the audience.

Doctor Adrian Le Roy, President Le Roy's International Research Laboratories, Hollywood, Calif., spoke on *Things to Come* and some of these were startling indeed. He is highly rated as a photochemist and has done considerable work in the application of electronics to photoengravings. His latest invention and one he expects to put on the market in the near future, is a machine in which color separation negatives can be placed and projected as a composite whole in their exact color values, thus enabling the photographer to make whatever corrections may be needed in advance of plate production.

Mechanization Comes to Photoengraving was the title of an address delivered by C. A. Harrison, Vice President, Fairchild Camera and Instrument Corp., Jamaica, N. Y. This dealt with the Fairchild engraving machine, a comparatively new device which produces what might be termed halftone reproductions of photographs by the use of electronics, eliminating all photographic and etching operations customarily employed. The copy is fastened around a cylinder and a piece of acetate material of the required size, this representing the printing plate, is placed around another cylinder. A fine pencil of light travels over the surface of the copy and the impulse created by the reflected light from the copy is amplified to activate the stylus which travels over the reproduction, synchronized with the scanning light. The resultant plate is not etched or engraved in the true sense of the word, the dots being burned into the plate corresponding to the tonal values of the copy.

Dry Offset Methods were described by Olin E. Freedman, Consultant in the Graphic Arts, Chicago. This method while not new is in the ascendancy and bids well to occupy an important place in the Graphic Arts of tomorrow. Fred W. Shafer, Manager, Advertising Service Depts., Chicago *Tribune*, spoke on *Newspaper Color Printing* of which that newspaper is one of the leading exponents and practitioners. This, too, has great possibilities of expansion. Gene C. Meston, Capital City Printing Plate Co., Des Moines, Ia., and President of Photoengravers Research, Inc., described the research activities of his group being conducted by Battelle Memorial Institute in Columbus, O. He made known some of the results already achieved. His address was entitled *Photoengraving Profits from Research.*

Frank P. Adams, President, Kemart Corporation, San Francisco, introduced a novelty, this consisting of *Kemart Flourostop for Color Separations and Correction*, another step in the simplification of color process reproduction.

Production Panel

The Photoengraving Production Panel was conducted under the guidance of Everett R. Eaton, General Mgr. of the Magazine Photoengraving Corp., Stamford, Conn. The panel members were Joseph Chanko, General Mgr. of the Conde' Nast Press; John McMaster, Graphic Arts Sales Div., Eastman Kodak Co.; Frank A. Sportelli, Vice President and General Mgr., International Color Gravure, Inc.; J. Homer Winkler, Technical Advisor, Battelle Memorial Institute; P. Simone, Manager, Engraving Div., The Curtis Publishing Co. This panel discussion, consisting in the main of a question and answer period, was the high spot of the convention. Each panel member is an outstanding expert in his particular line and the audience participated in the discussion which occupied an

(*Continued on Page 78*)

A peep at some of the exhibits at the recent convention of the American Photoengravers Association, Atlantic City, N. J. At right is part of the Ansco exhibit; in foreground is one of the cameras exhibited by Consolidated Photoengravers and Lithographers Equipment Co., with arc lamps and electric camera operating controls on table at left; in left background is a part of the du Pont exhibit; immediately at right of that exhibit is the one sponsored by Hammond Machinery Builders; in background (center) is exhibit of DoAll photoengravers bandsaw.

Technology *in Commercial Printing Industry discussed by five speakers at PIA meet*

Summaries of addresses

PRINTING Technology in the commercial printing industry was the subject of the meeting on Wednesday morning, September 20 at the Printing Industry of America's convention, Palmer House, Chicago. The meeting was sponsored jointly by the Research and Engineering Council of the Graphic Arts and the Printing Industry of America, Inc. Four well known management executives in the printing industry discussed the industry's needs from the technological standpoint. In some instances, the speakers appraised the equipment which has been announced already and also discussed certain kinds of equipment which they felt should be developed.

The five men addressing the meeting were: Chairman Frank F. Pfeiffer, Vice President of Reynolds & Reynolds Co., Dayton, O., and President of the Research and Engineering Council, who spoke on *Printing Technology, Today and Tomorrow*; Bernard Snyder, President, American Typesetting Corp., Chicago, and Chairman, Composition Research Committee, R&EC, who discussed *Type Composition, Hot and Cold*; Kenneth P. Morse, Vice President, Standard Register Co., Dayton, O., and Chairman, Plate Committee, R&EC, who delivered a paper on *Platemaking Developments*; *Press and Pressroom Developments*, was the subject of the paper prepared by Russell J. Hogan, President, Wilson H. Lee Co., Orange, Conn. Hogan is also Chairman, Presswork Research Committee, R&EC, his paper being read by H. M. Fritz, Production Mgr., Wm. G. Johnston Co., Pittsburgh; the final paper, *Developments in the Bindery*, prepared by C. Howard Thomas of National Pub. Co., Philadelphia, and Chairman, Bindery Research Committee, R&EC, was read by Richard Squires of the same company.

Printer and Manufacturer to Blame

The speakers tempered their observations by recognizing that conditions within the industry may have prevented equipment manufacturers moving as fast as desirable. Also, part of the blame rests upon the shoulders of the printers themselves.

In his opening address, Chairman Frank F. Pfeiffer, Vice President of Reynolds & Reynolds Co., Dayton, O., and President of the R&E Council, indicated that the fault for lack of technological advancement didn't rest entirely with the manufacturers and suppliers to the industry.

Mr. Pfeiffer also mentioned another reason for failure of manufacturers not supplying certain kinds of equipment when he said: "Frequently I've heard printers . . . say: "Why don't the equipment people consult us before they build a new machine or make changes in a previous model? We know what the shortcomings are in present machines; we know what should be done to improve them. Instead, they (the manufacturers) go ahead and build something which they or their designers and engineers think the industry wants or will buy. We have to take what they build, or nothing, instead of getting the kind of machines we really want.'

"That's a good point," he continued, "but the equipment manufacturers have an answer for it. Printers simply haven't told the equipment people what they want, at least not enough of them to help manufacturers arrive at reasonably safe conclusions as to what printers really want. Gentlemen, the printing industry as a whole is not cooperative when it is asked for this information."

President Pfeiffer of the R&EC asserted "This failure of the printing industry to be articulate, forcefully and persistently in making its needs and demands known is, I hope and believe, on the way to being remedied by the Research and Engineering Council of the Graphic Arts Industry. One of the stated purposes of the Council is to 'identify and define research and engineering problems needing solution.' "

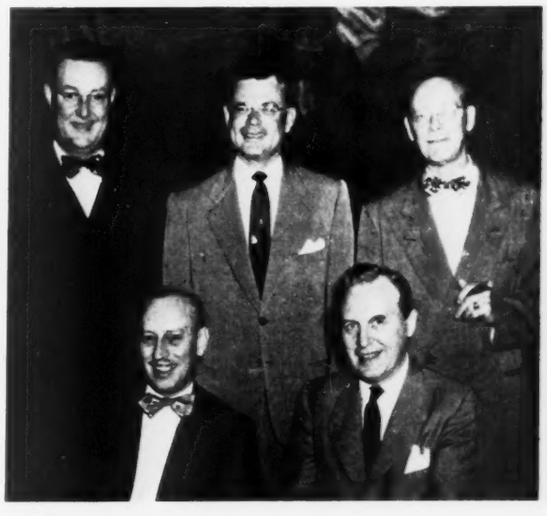
In discussing retardation of progress, Pfeiffer asserted:

"It is still of utmost importance to have good management and good technical know-how. Many a printer whose mouth will water when he sees the new equipment at the Exposition, and many a printer who will buy some of this new equipment, is not now fully utilizing the production capacity of the machines he owns, and many more of them have neglected methods and procedures within their shops, to a point where even the most modern of new equipment will be inefficient when contrasted with that same press in operation under good printing plant management.

"There are far too many people in our industry who should first expose themselves to education in plant layout, workflow, work simplification, production follow-up, sales techniques and management controls, before they spend one more dollar for new equipment.

"Far too many printers use new equipment to cover-up inefficiencies in these other fields. Of course, if that is the only way they can do it, it's still far better to buy the new equipment as a cover-up, than it is to go broke, because of these other inefficiencies."

Officers, Printing Industry of America, Inc. —These printing plant executives were elected officers at the Palmer House, Chicago, at the final business session on September 21. (at front): Robert H. Caffee (left), Wm. G. Johnston Co., Pittsburgh, President; Arthur A. Wetzel, Wetzel Brothers, Milwaukee, Vice President. Standing: Kenneth P. Morse, Standard Register Co., Dayton, O., Secretary (Mr. Morse spoke on Platemaking Developments at PIA's Printing Technology meeting during the convention); Allerton H. Jeffries, Jeffries Banknote Co., Los Angeles, Retiring President; Morris W. Davidson, Courier-Journal Litho Co., Louisville, (Ky.) Treasurer.



"Why Don't They?"—

PARAPHRASING the department heading appearing every month in the *American Magazine*, the speaker

enumerated a number of equipment items as follows:

(1) Why don't they develop a sheet fed job press which will take roll stock?

(2) Why don't they build a small, fast sheet-fed rotary letterpress which will print from curved originals? Mr. Pfeiffer then remarked that the equipment industry may be on the way to the answer to this problem through the development of dry relief offset printing from magnesium plates. He also remarked that if photographic typesetting becomes widely used in the offset field, the development of a sheet fed rotary press printing from original photoengravings may become a competitive must in the letterpress field.

(3) Why don't they make a greater effort to adapt rubber plate printing to the general commercial field?

(4) Why don't they deliver a press complete with all the accessories and gadgets necessary to make it produce efficiently?

(5) Why don't they have more attachments at the end of the press which would perform a number of operations and make printing production more automatic? (He explained such operations as numbering, perforating, imprinting, punching, etc., trimming down and cutting the form to delivered size by adapting the techniques used in the rubber plate field, to the general job printing field.)

(6) Why don't the manufacturers ferret out and put on the market some of the ingenious home-made devices which craftsmen in the shop invent and build?

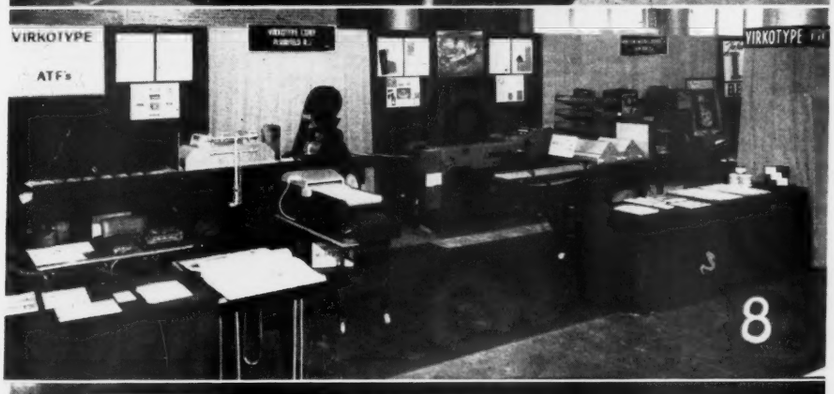
(7) Why don't they develop a fully automatic wrapping machine that is flexible enough to handle the variety of package wrapping the average commercial printer is confronted with?

(8) Why doesn't some manufacturer develop a gluing and stripping machine that will utilize the new thermosetting adhesives, that has enough utility and variable capacity to enable the average

Chicago Exposition Views

(Continued from October issue)

1.—The Model D Plane-O-Plate Rotary Shaver and the Monomelt Power Shear were included in the exhibit sponsored by Monomelt Co., Inc. The latter machine will shear stereotypes, electrotypes, zinc, copper, and plastic plates and news mats. The rotary shaver, designed for flat shaving of metal, wood and plastic, has a shaving capacity ranging from 0.150 in. to 1 in.—→ 2. ←—In the Oxy-Dry Sprayer Corp. exhibit, press runs were made on a Miehle Horizontal to demonstrate the new anti-offset sprayer, a positive powder control micrometer device, and anti-offset powder. The Bista overlay method of premakeready was also demonstrated. —→ 3. ←—A Lockwood Superior Multi-Color Letterpress and a Graeber Tag Stringer and Knotter were included in New Era Mfg. Co.'s exhibit. A picture blow-up of a New Era Multi-Process Press formed a background for the display. The roll-fed Lockwood press will handle stock up to a max. size of 5¼ in. wide. Prints all types of gummed and ungummed heat seal labels, stickers, tape and 3-color business cards.—→ 4. ←—The Rouse Photoengravers Plate Saw was featured by H. B. Rouse & Co. The machine, equipped with an automatic feed, cuts up to 15 in. of type high work in 17 sec. Blade cut is 2 pts. wide. Accommodates all kinds of printing plates. Also included were several models of the Rouse Vertical Miterer and the Rouse Band Saw or composing rooms.—→ 5. ←— Schaefer Machine Co. demonstrated the Schaefer Labelers, Gluers and Cementers. The Labeler is designed for gluing round, square or die-cut labels of all types. The 7 in. model will accommodate labels 6¾ in. by any length and the 11 in. model will take a label 10½ in. by any length.



commercial printer to use it?

(9) Why don't the folder manufacturers develop a folding machine that will not only count, but identify that count by some marker or variation in folder lineup, and that will deliver the folded forms at working table height, rather than a setting-hen level?

(10) Why doesn't some press manufacturer develop a more perfect jogging mechanism for the delivery of sheet fed or cut presses, that will do a perfect enough job to eliminate the need of jogging at the cutter?

(11) Why don't the manufacturers of platemaking equipment develop automatic etching machines of a size large enough to take the largest offset press plate? (the speaker said that so far as he knew, there are no automatic etching machines . . . that will take a plate size larger than 20 in. by 30 in. It is his opinion that such a machine would have a good chance of developing a reasonably large market in the field of dry offset printing, which, in his opinion, is destined to develop into one of the most popular printing medias.

Platemaking Problems

KENNETH P. MORSE presented a rather amplified discussion with respect to platemaking developments in the letterpress industry. "In the photoengraving field," said he, "the No. 1 need is for a faster, simpler and less expensive method of etching . . . There is a great need for a process of making photoengravings in about 15 min. . . . the etching procedure involves the use of a machine to do the powdering mechanically."

Among the developments mentioned by the speaker as being needed is a small

Chicago Exposition Views

(Continued from October Issue)

6.—International Dry Spray Corp.'s display was built around a V-50 Miehle Vertical press equipped with an IDS 2-nozzle Dry Spray in operation. The demonstration was combined with photographs of IDS installations and complete IDS units of various sizes. The standard 2-nozzle, 6-jet IDS unit covers a 35 in. by 45 in. sheet.—→ 7. ←—The E. P. Lawson Co. exhibited the Electronic Spacer Cutter, 39 in. Heavy Duty Automatic Clamp Cutter, 46 in. and 52 in. Heavy Duty Hydraulic Clamp Cutters and the Heavy Duty Drill Slotting Machine. From left to right are: E. N. Grange, R. J. LaChapelle, F. J. Bieber, D. W. Schulkind (President), F. W. Seybold, T. Glenn, C. M. Andrews, B. Losket, A. Held, A. Clarity and J. E. Swegles.—→ 8. ←—A demonstration of equipment used in producing raised printing under pressroom conditions was performed by the Virkotype Corporation. A Virkotype Model A-12 Automatic Process Machine was in operation with an ATF Little Giant. A stationery and job shop model and a hand process machine were also exhibited.—→ 9. ←—General Electric Co.'s exhibit demonstrated the G-E Side Register Control, a.c. Preset Speed Printing Press Controller, adjustable speed ACA Motors for offset presses, Speed Variator and Slimline Lamps for Color Platemaking. The Preset Speed Control is a device which enables the press operator to set a predetermined speed manually by a knob.—→ 10. ←—Tompkins Printing Equipment Co. featured, in addition to its regular line of equipment handled for well-known manufacturers, a demonstration of the Unisorb method of mounting printing machinery to all kinds of floors. The material is designed for controlling vibration and noise within the printing plant.

rotary press printing a sheet each revolution instead of every other one (which) would put letterpress on a better competitive basis with offset . . . Another approach is the development of dry relief offset which is printing from a curved relief original on an offset blanket without the need for water or dampening roller.

The weight problem of electrotype and stereotype curved plates for web printing is being attacked. Solution of the problem may lie in the use of low-density alloys such as magnesium-zinc, magnesium-aluminum-zinc, and magnesium, aluminum-cadmium. Another method is the proposed backing of a thin electrotype with a light metal alloy sheet.

Development work is being undertaken in the plastic plate field to perfect a successful curved plate—one which will not soften under the heat of ink drying units and the heat generated by friction during high speed rotary operation.

Mr. Morse discussed offset plates. "Most dramatic . . . of the efforts to produce a stable offset plate," he said, "is represented by the development of bimetallic offset plates . . . It is interesting to speculate on the possibility that bimettallic plates may swing the pendulum over sharply in favor of lithography for long-run color printing. . . Now, if bimetallic plates prove successful and are widely used for web offset printing, lithography will be able to accept work on an even basis with both the letterpress and gravure processes in the field of long run multicolor printing."

He observed that lack of production facilities has held back wider application of gravure. One has been the lack of gravure presses and platemaking facilities. In the rotogravure field especially, is the fact that after you have put a great deal of time and money into the preparation of a set of gravure cylinders the results are not as predictable as desired. Revisions after that are quite expensive and time-consuming. These limitations, however, are being relieved. In addition to the development of a proof press, efforts

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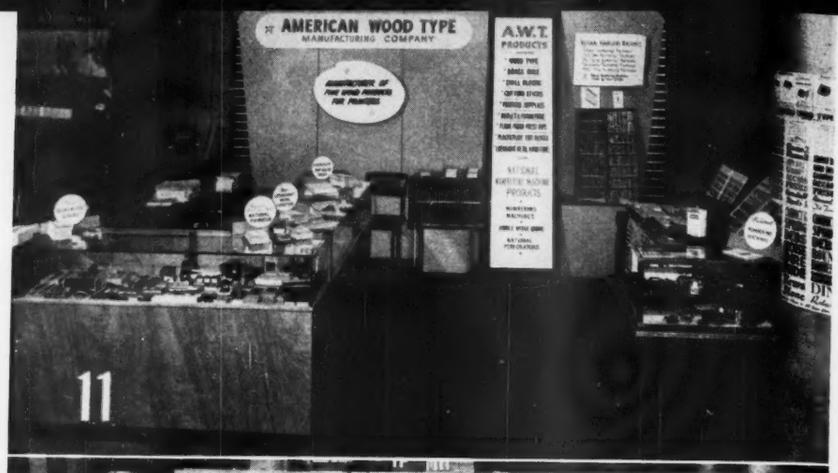
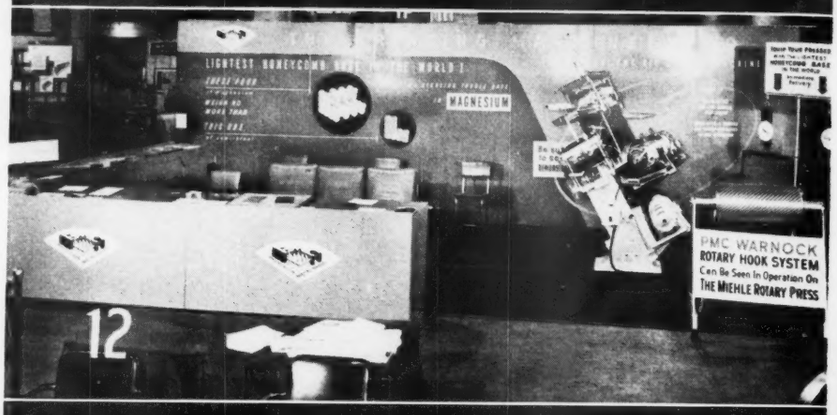
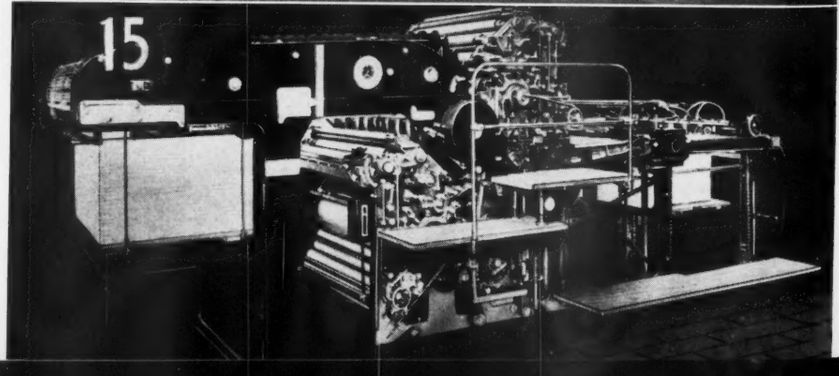
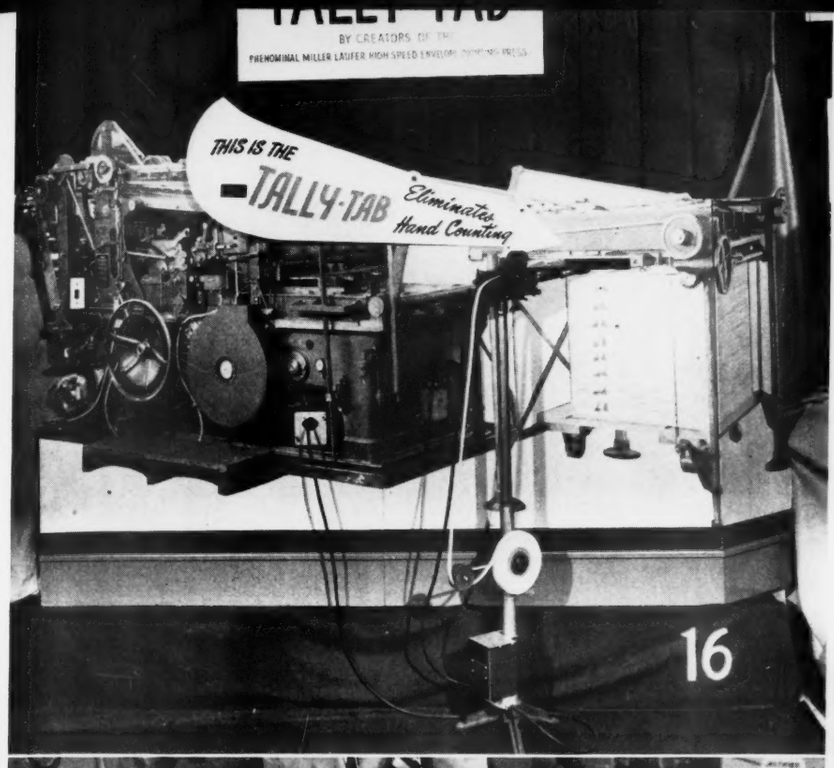
11.—More than 200 separate items for printers were displayed by American Wood Type Mfg. Co. Included were the double wedge quoins and the National Perforator which perforates while printing, in the same form.—→ 12.←— Printing Machinery Co. displayed its line of Magnesium Sterling Toggle Base which weighs about one-fourth as much as semi-steel or zinc die cast base. The PMC Flinker Fountain Divider was also on display and a PMC Die Cutting Machine was in operation.—→ 13. ←— Introduction of the Betsy Automatic Collator was made at the Exposition by J. Curry Mendes Corp. Also in operation were two JCM semi-automatic collating and tipping machines designed for collating and tipping all types of one-time carbon forms. The Betsy model will collate up to eight 12 in. by 18 in. sheets at speeds up to 8000 collations per hr. —→ 14. ←—Russell Ernest Baum, Inc., exhibited the 30 in. by 46-60 in. Baumfolder with 14 fold plates, 17½ in. by 22½ in. Senior Baumfolder and 25 in. by 38 in. Baumfolder. Two new Junior Baumfolders introduced were the 14 in. by 20 in. and the 17 in. by 22 in. The Junior models are equipped with five folding plates and will accomplish 60 styles of folds from 4 to 16 pages.—→ 15. ←—The ATF-Mann 38 in. by 53½ in. Sheet-fed Offset Perfecting Press, exhibited by American Type Founders, and claimed to be the only press of its type in America. It was one of our Mann offset presses exhibited by ATF. These included a 22 in. by 34 in. single color, a 25 in. by 36 in. single color and a 30 in. by 42 in. two color.









are under way to develop a gravure platemaking process in which will be eliminated the use of carbon tissue which will have fewer variables than carbon tissue.

Mr. Morse concluded his discussion of the gravure process by stating: "The process needs better control of the cylinder etching operations, such as an etcher with five eyes."

Typesetting— Hot or Cold

"There is one point I would like to make in connection with these office composing machines—and it applies to phototypesetting machines, too. Anybody who thinks he is going to effect substantial labor savings in using so-called substitute methods will be badly fooled. I don't care what method of Keyboard typesetting you use—hot or cold—they all require a high degree of judgment, skill, and a feeling for good typography if you want quality work. And that kind of skill costs money. Any appreciable savings that come from these methods will have to be in other directions—through eliminating or combining some of the production steps necessary in present methods."

THIS statement was one of the high points in the address of Bernard Snyder, who discussed *Type Composition—Hot and Cold.* He said that publicity connected with the so-called printing revolution has been both a blessing and a curse—it has been both helpful and embarrassing. Extravagant claims made in newspapers and general business magazines has caused the public to fail to

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16.—A picture blow-up of a Kelly press with a Tally-Tab machine in operation, inserting marker tabs into the delivery pile as the printed sheets come off the press, was shown by Miller-Lauffer Printing Equipment Co. Designed for any size press, the Kelly-Tab also counts printed sheets as they come off the press.—→ 17. ←—Demonstrated for the first time in public by Fairchild Camera and Instrument Corp., was the Lithotype, a self-justifying cold-type composing machine designed to supply copy for photo-offset work. The machine produces master copy in standard type faces to measure and provides proportional character spacing.—→ 18. ←—The new feed roll register mechanism for E.B.Co. offset presses was introduced by the Printing Machinery Div., Electric Boat Co. The optional device enables register shifts to be made without touching the plate. The mechanism is composed of a bar which can be moved backward or forward on both sides to change the gripper bite. It can be moved ahead on one side and back on the other to compensate for work slightly out of square. The bar can also be bowed either concave or convex for fanning sheets out or in on both sides at the tail end or only on one side, if so desired.—→ 19. ←—The Poly '50 Automatic Press was operated by Parsons & Whittemore, Inc., agents for the German-made cylinder press. Walter Stockman (left), of the firm's Graphic Dept., was in charge of the exhibit with Leon Rostain, Sales Manager. Specifications of the press are: max. sheet size, 14¼ in. by 20½ in.; max. form in standard chase, 13 in. by 19 in.; max. form locked on bed of press, 13¾ in. by 20½ in.; min. sheet size, 6 in. by 6½ in.; motor size, 3 h.p.; weight, over 4200 lbs.; and operating speed, first range 1400 to 2500 i.p.h., second range 2500 to 5000 i.p.h.

understand why its printer doesn't have these new things installed and producing.

Mr. Snyder asserted there are two reasons why phototypesetting may be on the threshold of entering the Graphic Arts industry now, in addition to the economic reasons which have focussed the spotlight on the development. "First," said he, "the rapid growth of offset as a major printing process which is entirely a photographic and photomechanical process; second, several modern applied sciences have come to the aid of the development . . . All of these contributions of the sciences have made it possible to do, on a prototype machine at least, what the inventors said such a machine could do. . . Until these machines can demonstrate better speed and flexibility than conventional machines, at the same or lower cost, then there is no reason to replace what we have now. It might be said in passing that our present machines are not producing to their maximum capacity, for reasons that are not technical.

"Don't get the idea that we as printers and commercial typesetters are blind to the development (of phototypesetting) or playing ostrich with our head in the sand. We welcome such a development and will make use of phototypesetting machines when they have proved their worth for all or some typographic purposes. We'll go further than that. We will cooperate in testing them to see if they really can do a job better and cheaper than present machines will."

Pressroom Developments

THE prepared paper to be presented by Russell J. Hogan was read, as is mentioned above, by H. M. Fritz,

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20.—Introduced by Linotype Products Co. at its exhibit was the Dri-Stain Process of treating the reference edges of line-composing machine matrices to make them easily readable to the operator. The process is designed for use by personnel in the plant.—→ 21. →—Miss. Roberts and the bulldog (Winston Churchill), as they appeared at Roberts Numbering Machine Co.'s exhibit where the company introduced the Bulldog Lock-Pawl Numbering Machine. This model is equipped with a high-speed wheel lock which prevents wheel overthrow. The company also displayed numbering machines for both rotary and flatbed presses.—→ 22. →—The Myron Jonas Co. display included a selection of advertising literature produced by this agency for firms in the Graphic Arts industry. In addition, a collection of advertising cards produced by New York lithographers in the 1870's and 1880's were shown.—→ 23. →—Anchor Chemical Co.'s display featured four new Anchor products. These included: Aled Plastic Plate Wash, a cleaner for plastic and rubber printing plates and furniture; Non-Work-Up-Fluid, a non-inflammable liquid for preventing work-ups; Rubber Roller Wash, a cleaner for cleaning and revitalizing rubber rollers, and Non-Inflammable Solvent, a hard ink remover.—→ 24. →—The Model D Extension Delivery was shown by Rathbun & Bird Co., Inc., attached to the end of a wooden replica of a printing press. In addition, an R & B Automatic Paper Lift with a feed board and forwarding chain was attached to the front end of the simulated press.

ANPA MECHANICAL COMMITTEE APPOINTMENTS

President Edwin S. Friendly of the American Newspaper Publishers Assoc. announces appointment of the ANPA Mechanical Committee personnel.

Chairman—Leslie J. Griner, Production Mgr., Detroit *News*.
John L. Blake, Scripps-Howard Newspapers, New York, N. Y.
Leven T. Deputy, Mechanical Supt., Dallas (Tex.) *News*.
Edwin H. Evers, Production Mgr., St. Louis *Globe-Democrat*.
Harry Eybers, Production Mgr., Salt Lake City (Utah) *Tribune-Telegram*.
B. F. Garrity, Production Mgr., Gannett Newspapers, Rochester, N. Y.
W. E. Gibbons, Production Mgr., Chicago *Herald-American*.
Fred Gross, Mechanical Supt., San Francisco *Chronicle*.
Shields Johnson, General Mgr., Roanoke (Va.) *Times and World-News*.
Stephen J. Lambert, Production Mgr., Brooklyn *Eagle*.
F. Richard Lilly, Photoengraving Supt., Miami (Fla.) *Herald*.
Charles R. McGuire, Production Mgr., Minneapolis (Minn.) *Star and Tribune*.
Joseph E. McMullen, Asst. Production Mgr., Milwaukee (Wis.) *Journal*.
John W. Park, Production Mgr., Chicago *Tribune*.
J. D. Raridan, Editor, Brush-Moore Newspapers, Canton, O.
W. Watson Southam, Director and Production Mgr., Southam Company, Ltd., Montreal, Can.
Reg Tranter, Mechanical Supt., Boston *Herald Traveler*.
Earl R. Weiskittel, Pressroom Supt., Youngstown (O.) *Vindicator*.

Modern Lighting Practice For the Newspaper Plant

By WM. H. KAHLER*

**Lighting Engineer, Lighting Div., Westinghouse Electric Corp., Cleveland, O.*

UNTIL recent years, newspaper plants have operated under poor illumination conditions arising from inadequate lighting equipment, power supply limitations, and the lack of a complete understanding of the benefits of a well-engineered lighting system. Equipment and know-how are now available to provide seeing conditions commensurate with present-day high quality newspaper standards.

Progressive architects and engineers now try to visualize a finished plant as a coordinated design for maximum human and mechanical efficiency. The overall environment is controlled for employee comfort and efficient activity. Illumination is a major component of this controlled environment. It is a particularly important factor in a printing plant because most operations depend upon the worker's ability to see well.

The lighting system must be adequate and independent of natural light because newspaper printing is generally a 'round-the-clock operation. Even during daylight hours natural light is only effective within a few feet of the windows and varies greatly depending on the weather. Illumination must be adequate not only in quantity (footcandles), but also in quality. It is the correct combination of quantity and quality that provides high visibility of detail and overall seeing comfort.

The fluorescent lamp is one reason that adequate newspaper plant lighting is now practical and economical. The high efficiency, low brightness, and large area characteristics of the source make it ideal for the specific seeing requirements in the plant. The low heat radiation also contributes to greater comfort when lighting must be mounted relatively close to the workers. It is equally important, however, that the design engineer thoroughly understand the characteristics of the fluorescent lamp as they effectively apply to the newspaper operation. The purpose of this article, therefore, is to show how fluorescent lighting is being used to solve several of the more difficult lighting problems in the plant.

Composing Room

The composing room involves the most critical seeing tasks in the entire plant and has always been a problem to the lighting engineer. When the printer works with a frame of clean type, or a clean engraving or electrotype, he sees a mottled mirror. The raised type face usually is dark from the ink of pulling a proof and is seen in silhouette against the mirror-like background. This shiny background will reflect overhead light sources. If these sources are small and of high brightness, very annoying reflected glare will result. This reflected glare encountered continually throughout the work day will cause eye fatigue and eye strain. However, this adverse condition can be eliminated by using light sources of low brightness and large area which will create clear, but comfortable visibility of type. In Fig. 1 is illustrated this point. (*Continued on Next Page*)

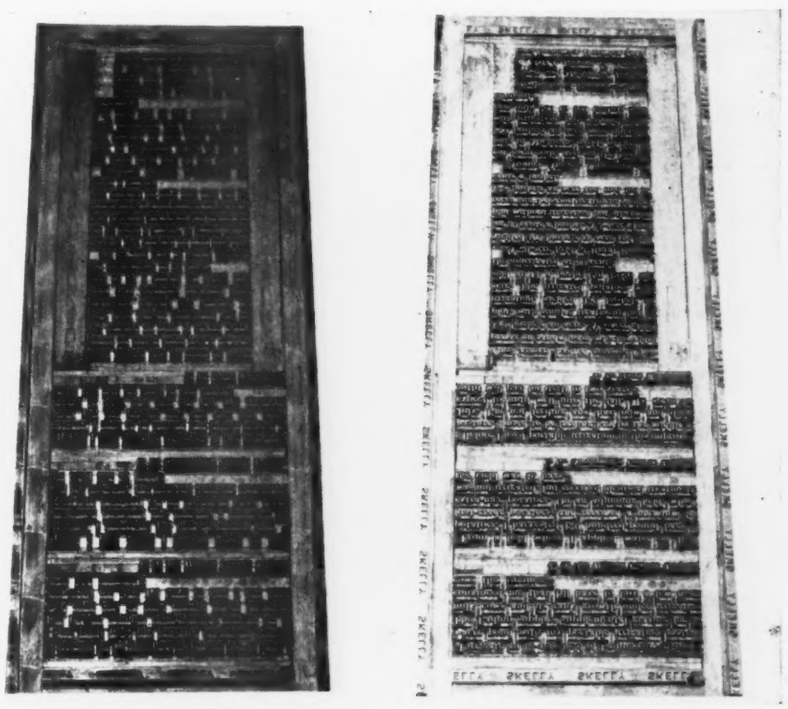


Fig. 1.—A study of the illumination of type as seen by a typesetter. (at left) Type illuminated by direct incandescent luminaries. Note high brightness and small area reflection of the bright incandescent lamp. This reflection causes annoying glare and the remainder of the frame is difficult to read. (at right) Type illuminated by semi-indirect fluorescent lighting. Reflections are low in brightness and uniformly distributed, making uniform and adequate visibility of type without glare.

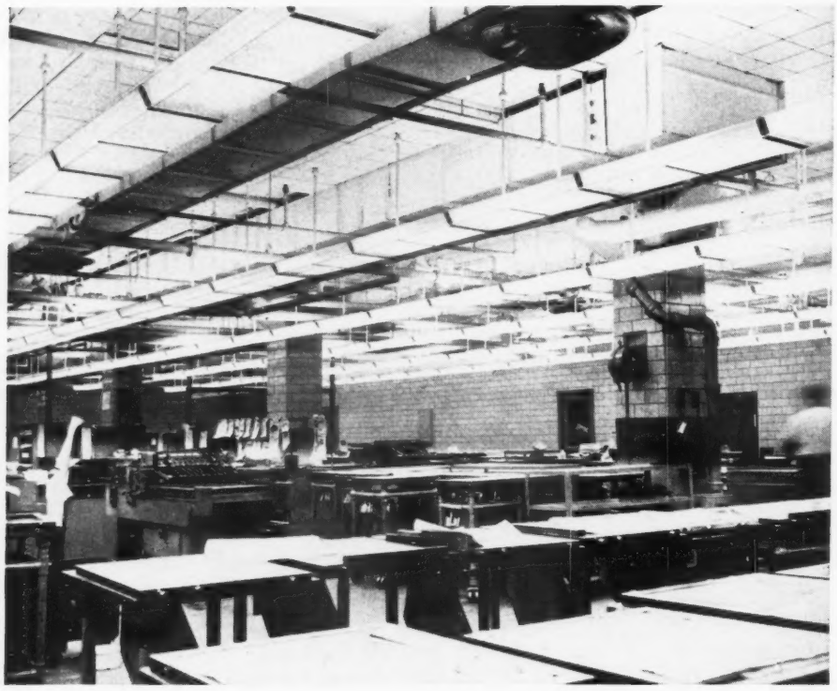


Fig. 2.—The composing room at the Louisville (ky.) *Courier-Journal* and *Louisville Times*, is lighted with semi-indirect fluorescent equipment. This room has been appraised by the workers as just the right kind of light for their work. Each luminaire has four 40 w. fluorescent lamps which are shielded by side panels and a bottom of enameled ribbed glass. Continuous rows are on 8 ft. 4 in. centers.

Recent lighting installations have proved the merits of low brightness lighting equipment. Individual luminaires of large area and low brightness may be used at relatively low mounting heights at the critical work points, or the complete lighting system may create the low brightness effect. The latter is better for the newspaper composing room because it provides equally adequate visibility throughout the room. Fluorescent equipment of the semi-indirect type makes such a system practical as shown in Fig. 2.

This lighting system is also adequate for proofreading and for the operation of proof presses.

Linotype Machines

The first principle of good lighting for critical, prolonged seeing is violated in most linotype rooms. A small local light on each machine illuminates the copy and keyboard, but the absence of general lighting creates a severe brightness difference between the work and the surroundings. Such a condition will cause eye strain and an unnatural atmosphere of gloom.

The linotype room should have general illumination of 20 to 30 footcandles provided by low brightness luminaires such as semi-indirect fluorescent equipment.

Each machine should be equipped with a supplementary luminaire to furnish at least 50 footcandles on the copy. Both incandescent and fluorescent units are being successfully employed, but the fluorescent type again has the advantage of lower brightness and thus eliminates reflected glare. Either type should be shielded by a reflector to keep direct lamp brightness from the field of view of all operators.

Another progressive step for the linotype room would be a lighter finish on the machines. A soft green or gray with about 30 percent reflection factor would contribute greatly to better visual comfort for the operators.

Copy Work

The preparation of copy and layouts is usually done in the office section of the plant and the seeing tasks are similar to other office operations such as typing, accounting and billing. Since all such work involves critical and continuous seeing for prolonged work periods, at least 50 footcandles should be provided. Fluorescent equipment is most practical and the best quality illumination will result from semi-indirect luminaires. Semi-indirect equipment, having closed bottoms, does, however, present a maintenance problem and therefore most office managements prefer equipment with louvers.

Pressroom

Lighting plays an important role in enabling the operators to maintain precise control of modern high speed newspaper presses. Figs. 3 and 4 illustrate the lighting methods recommended for both reel level and the main press floor. Fluorescent luminaires are the enclosed, vapor-tight type to minimize the cleaning problem of flying grease and the ink mist. Each luminaire contains two 40 w. fluorescent lamps and consists of a steel housing, inner white enameled reflector and a hinged dust-tight cover. Illumination along the sides of the press is about 40 footcandles. The measured amount of

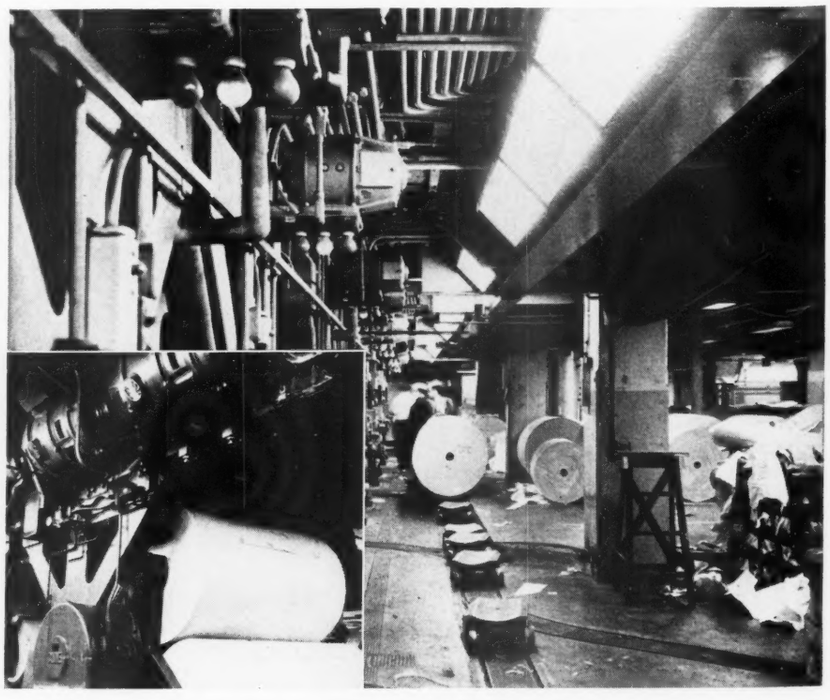


Fig. 3.—The reel room at the *Courier-Journal* and *Louisville Times* is lighted entirely with fluorescent equipment. Continuous rows of two-lamp, 40 w. Vapor-Tight and dust-tight luminaires are mounted along both sides of the press and tilted to effectively illuminate the mechanical and electrical components from floor to ceiling. Totally enclosed units were selected to minimize maintenance.

The inset illustrates the high visibility at the reel loading points as well as on the mechanical parts.

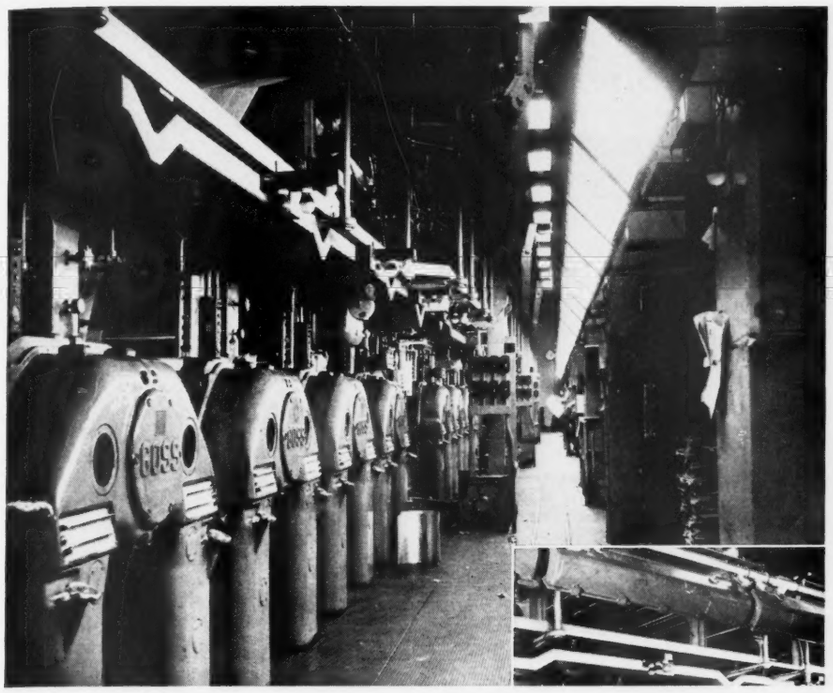


Fig. 4.—At the pressroom level Vapor-Tight fluorescent units are also used at the *Courier-Journal* to protect lamps and reflectors from ink mist and other forms of dirt accumulation. Approximately 40 footcandles are maintained on the press which provide excellent visibility inside the press as well as along the sides. Quality of illumination is equally as important as quantity in lighting a press because light must be well diffused to eliminate harsh shadows, and the sources must have low brightness to prevent direct and reflected glare. The continuous rows of fluorescent luminaires fulfill both of these requirements. In the inset is illustrated the method of mounting and wiring the luminaires.

light inside presses is considerably less than 40 footcandles, but here again quality is more important than quantity. The direction and diffusion of light from the continuous rows of fluorescent luminaires provides excellent visibility on the press cylinders and permits quick changes of plates.

Other Plant Areas

In the other production areas such as mailroom, cylinder plating, engraving and stereotype departments, open type industrial fluorescent luminaires are being used extensively. These luminaires are all equipped with porcelain enameled steel reflectors for two or three 40 w. lamps, as required.

In the newspaper storage and other utility areas, incandescent RLM Dome reflectors are considered most economical and provide acceptable illumination. Reflectors with 150 w. lamps are located over the aisles in the newsprint storage on about 10 ft. centers. Each aisle can be controlled by a ceiling pull switch.

Maintenance of System

A systematic method of maintaining the entire lighting system is a must. Group replacement of lamps is practical in most areas because the lighting operates for a given number of hours each week. It is expected that an annual replacement of lamps will be economical and will minimize the need for intermittent replacements. Luminaires must be cleaned at regular intervals, depending upon the dirt accumulation, but in most locations a 6 mo. cleaning frequency will be sufficient.

Every newspaper plant presents an individual lighting problem, but the suggestions in this article will serve as a guide in planning the illumination for other plants. There are several main objectives to keep in mind. Lighting equipment should be low in brightness. Relatively high illumination levels are necessary for all areas involving precision or prolonged seeing. The wall and ceiling finishes (and machine finishes if possible) should be light in color. The entire lighting system should be planned by a competent engineer, whether one department or the entire plant is involved. The combination of careful planning, reliable lighting equipment, and regular maintenance will contribute to high production standards, efficient plant operation, and better morale among the workers.

IPI Contest Winners

Fred Frank, Timken Vocational High School, Canton, O., was announced as first prize winner in the IPI Certificate Design Contest conducted in connection with the IPI Annual Essay Contest. Second prize went to Portland High School Printing Laboratory, Portland, Me., while third place was awarded to Robert Talbert and L. G. Daundera, Lew Wallace School Print Shop, Gary, Ind.

We don't know what they were discussing when this picture was taken at the June ANPA Mechanical Conference, Hotel Statler, Buffalo. At left is Vernon R. Spitaleri, Manager, ANPA Mechanical Dept. At right is Joseph E. McMullen, Asst. Production Mgr., the Milwaukee (Wis.) *Journal*. Mr. McMullen recently was selected with four others, for membership on the ANPA Mechanical Committee.

Goss Scale Model (1/40 actual size) Chicago *Tribune* Headliner Press was shown at recent Graphic Arts Exposition, Chicago. The Goss display featured a colorful display of "more than 5000 publications printed on Goss presses." Left to right in this illustration are: C. S. Crafts, Goss Vice President and Chief Engineer; W. H. (Tex) James and S. D. (Doc) Willey, Production Mgr., New York *News;* J. A. Riggs, Goss Vice President and General Mgr.

Equipment & Supplies

Miller Press Booklet

A COLORFUL 16 page booklet has been prepared by Miller Printing Machinery Co., 1101-1131 Reedsdale St., Pittsburgh 12, Pa., for the Miller 19 in. by 25 in. SG Automatic Cylinder Letterpress. Numerous illustrations show various views of the press, along with close-ups of the bed-driving gears, cylinder and journals, motor, V-belt drive, flywheel, tachometer and oil pressure gauge. Floor plan, side view and inker diagrams are also included. Specifications are listed with a double-page illustration of the press.

Electro-tab Autopaster

THE Wood Electro-tab Autopaster is a device designed for speeding up the new paper roll and timing the splice on high speed rotary web presses. It can be applied to any existing reel without any alteration of or addition to the reel, according to Wood Newspaper Machinery Corp., 501 Fifth Ave., New York 17, N. Y.

The speed-up device is a rubber covered wheel mounted on a single pivoted arm. The wheel is driven by an electric motor which in turn is controlled by two small generators. One generator is driven in proportion to web speed, the other in proportion to new roll speed. The combination brings new roll speed up to web speed and holds both in exact balance until the splice is properly made.

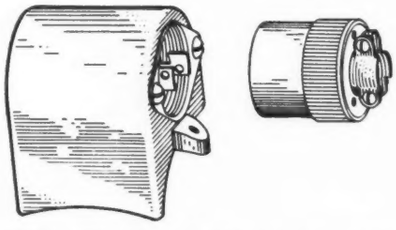
Timing is accomplished by two flexible metal strips on the pivoted arm and a piece of aluminum foil pasted on the surface of the paper roll when it is being prepared. The splice is made by the operator pressing the paste button. The metal strips passing over the aluminum foil energize a sensitive electrical relay to start the splicing cycle. A special relay automatically measures the right amount of paper, then operates the knife to sever the old web.

After the splice is made, the operator releases the brush arm which automatically returns to its inactive or raised position. He then rotates the reel to move the newly spliced roll into contact with the tension straps, thus completing the splicing cycle.

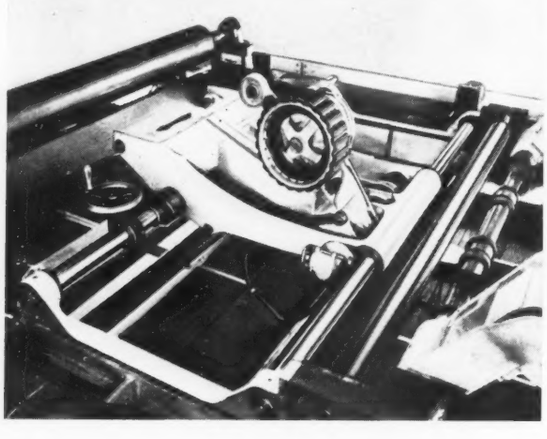
Floor Plan Layouts

FOR those who are planning rearrangement of composing room equipment or planning to set up a new plant, an excellently prepared booklet entitled *Composing Room Floor Plan Layouts* has been published by Hamilton Mfg. Co., Two Rivers, Wis. The booklet is available upon request. In addition to drawings showing before-and-after layouts, featuring simplification of workflow in various types of plants—commercial printing plants, combination weekly newspaper and job printing plants, typographic plants, etc.—the booklet also contains original layouts of plants so arranged as to eliminate waste motion and effort along the line.

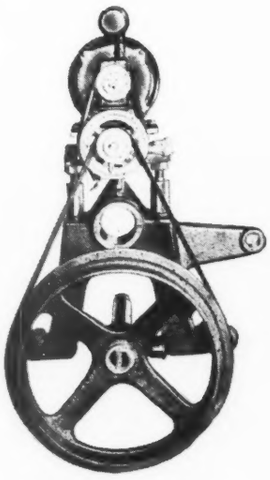
The 16 pages and cover includes half-page, full-page and 2-page layout drawings for small, medium and large size plants. It is explained in the introductory page of the booklet that the layouts are presented as though-stimulating suggestions with the idea that through study of their various features a person may be able to obtain some help in his own search for ways and means to cut costs in the composing room. Layouts in the booklet are printed in blue with workflow lines in red.



Safety Plug Terminal — Designed as optional equipment for Cushman Offset Motors, the Safety Plug Terminal allows disengagement of the source of power. According to Linotype Parts Co., Inc., 2 S. Main St., S. Hackensack, N. J., a turn of the plug in the two-part terminal arrangement permits disengagement. The male plug carries the live leads, while the female is completely housed in the motor itself.



Single pivoted arm carries the rubber covered speed-up wheel and the two electrical contact strips for the Wood Electro-tab Autopaster, a device designed for speeding up the new paper roll and timing the splice on high speed rotary web presses.



Line-composing Machine V Belt Motor

The Reid V Belt Motor Drive is intended for application to line-composing machines, states William Reid Co., 2271 Clybourn Ave., Chicago 14. The motor is ⅓ h.p. standard type for 110 or 220 v. alternating current. Motor speed is 1725 r.p.m. The motor is mounted on the right main cam shaft by means of a special bracket. The drive is through two V belts connected to motor and driving pulley by a counter shaft. Reid states life of the V belts is approx. 5 to 7 years. Standard V belts may be obtained locally in a hardware store. Wheel guard is available if wanted.

Web Presses Bulletin

HAMILTON web presses and special printing machinery are illustrated and described in a two color bulletin made available by The Hamilton Tool Co., Ninth St. at Hanover, Hamilton, O. The various rotary web press arrangements illustrated in the bulletin include cut-off delivery; rewind delivery; printing three colors on face from rubber plates or two colors on face and one color on back of form; one color rubber plate printing, numbering, punching for tabulating and collating, length perforating, slitting and rewinding; and two color offset printing on face and one color rubber plate printing on reverse. Another press shown is designed for two color rubber plate printing and equipped to print two forms wide and two forms around. The press also will perform two wide collating punching, front hole punching, cross perforating, length slitting and length perforating, and 17 in. cut-off combination delivery. Other equipment illustrated include the Magnetic Unitension Rewinder, Photographic Paper Slitting and Cutting Machine, Rotary Proof Press, and 12 Station Collator.

Side Register Control

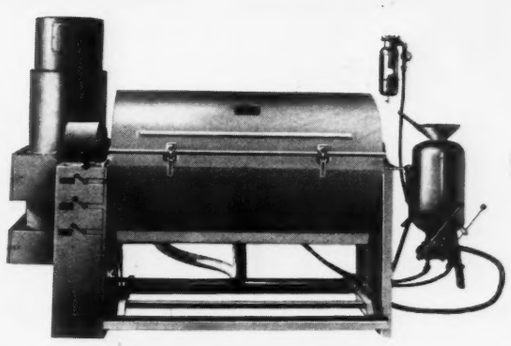
AN electronic side register control that automatically maintains the lateral position of a moving web of material on slitting, rewinding and other processing machines, has been reported by the General Electric Co., Schenectady 5, N. Y. The control responds to a signal from a printed line on paper, plastic or cloth of 1/32 in. min. width.

According to G–E, the control ignores all signals from printing adjacent to the guide line on the trailing edge of the scanning sweep. It also follows broken lines of the same width, states the sponsor, and will not change web position if the web breaks. Instantaneous response is claimed for errors as small as 0.001 in. or less.

The control is composed of a rotary lens web scanner and a thyratron control panel. The scanner has a tilting mounting bracket with adjustable stops to allow operation on either diffused or specular scanning. The direction of scanning can be selected by a panel mounted switch, while the red and blue sensitive phototubes will handle most color contrasts.

Capable of handling motors up to ⅔ h.p., the thyratron reversing motor control feeds power to the correction motor so that correction is proportional to the amount of error detected by the web scanner.

Offset Plate Graining Machine — The Consolidated System Lindmark Machine is designed for graining and/or regraining offset printing plates. Graining is done by dry sand while the plates are clamped to a revolving fully-enclosed drum. Because the graining operation takes place with a dry material, claims Consolidated Photo Engravers & Lithographers Equipment Co., 2155 W. Wabansia Ave., Chicago 47, no later drying step must be made and plates are free from the danger of oxidation.



Linotape Dri-Stain Process

INTRODUCED and demonstrated for the first time at the National Graphic Arts Exposition, Chicago, was the Dri-Stain Process of treating the reference edges of line-composing machine matrices to make them easily readable to the operator. The process is sponsored by Linotape Products Co., 1840 Larimer St., Denver 2, Colo.

The Dri-Stain Process is intended for self-use in the composing room—that is, it is applied to the matrices by personnel in the plant. After the matrix reference edges have been made black with the characters filled in with white or colored wax-like crayon, the font is said to last on the average for one year's use.

The process is applied as follows: A group of matrices is placed in a clamp reference face up. Reference face is cleaned with a brush and a solution called Linosol and wiped dry. The reference faces of the matrices are then cleaned with a rubber eraser. A length of Linotape (fabric with the blackening agent embedded in the tape) is cut to length. This is placed plain side next to the matrices, a locking bar is placed in position, the clamp locking screw is tightened and the assemblage is placed tape-side down on an electrically heated hot plate for 30 min.

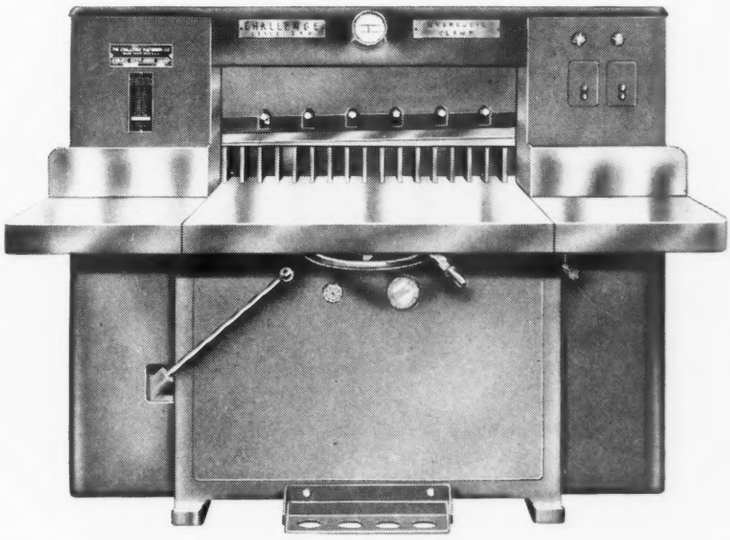
The clamp containing the matrices is now removed from the hot plate and the locking bar and tape both are removed from the matrices in the clamp. While hot, the reference edges of the matrices are rubbed with what is called Blend-Stik to increase the density of the blackened reference edges. After the matrices have cooled sufficiently, the reference character depressions are filled with Color-Stik. The Color-Stik pencil may be white or one of several colors as desired. Excess Color-Stik is wiped off with a clean cloth. Color adhering to the edges or corners of the matrices may be removed by tilting a row of matrices and wiping with the cloth.

Challenge 37 in. Cutter

EQUIPPED with a hydraulic clamp which rises 5 in. above the table and operated by a foot treadle, is the 37 in. Automatic Paper Cutter developed by The Challenge Machinery Co., Grand Haven, Mich. The cutter table extends 20½ in. in front of the knife and 38 in. in back. Features of the machine include motors and mechanisms enclosed under the table, right and left extensions for jogging and handling stock, and built-in fluorescent table light and tape magnifier. Non-repeat and two-hand safety devices are standard equipment.

Split in three sections, the back-gage of the cutter permits three separate trims at one time. When required to compensate for the stock draw, the face of the back-gage can be tilted. The back-gage is operated by a hand wheel which provides complete travel in 3½ revolutions.

Cutter and hydraulic unit motors are operated with push button switches. Designated the 370, standard equipment includes false clamp plate, two knives, four cutting sticks, table light and tape magnifier, duplex steel measuring tape, 2 h.p. constant speed drive motor and ½ h.p. constant speed hydraulic unit motor and switch.



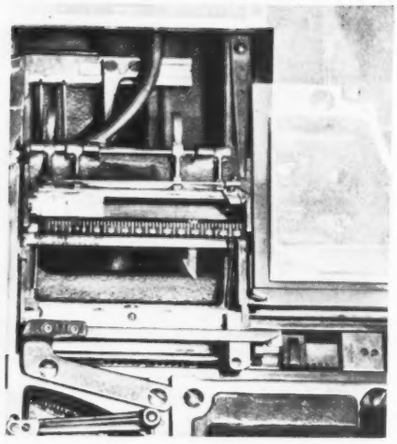
The Challenge 370 Automatic Paper Cutter equipped with a hydraulic clamp which rises 5 in. above the table and is operated by a foot treadle.

Chemical Booklet

A CONDENSED guide for users of organic chemicals has been issued by Carbide and Carbon Chemicals Div., Union Carbide and Carbon Corp., 30 E. 42nd St., New York 17, N. Y. Entitled *Physical Properties of Synthetic Organic Chemicals*, the 1951 edition of the 16 page booklet presents data on applications and physical properties of more than 250 synthetic organic chemicals in tabular form for reference.

Heidelberg Distributor

The appointment of Ben Shulman Associates, Inc., 500 Fifth Ave., New York, as exclusive dealers for Original Heidelberg automatic platen presses in Greater New York and all of Long Island, has been announced by Ben Shulman, President. Ben Shulman, Inc., Rochester, N. Y., will handle the exclusive franchise for the presses throughout the remainder of New York State.



Linotype Delivery Slide — Linotype Parts Co., Inc., S. Hackensack, N. J., states its new delivery slide permits the holding of the delivery slide long finger block at the 30½ pica measure at all times, regardless of the size of the line being set. By means of a ratchet device, the short finger bar closes in on the line to hold it intact between the long and short fingers for safe delivery through the channel rails to the first elevator jaws. A special assembling elevator gate with a matrix support rail mounted on it, is provided. The company states that if the slide is to be applied to machines with quadders, the special assembling elevator gate is not needed.

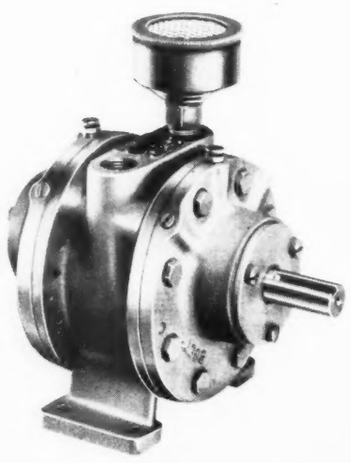
Gaco Magnesium Resist

ACCORDING to an executive of the Jones Graphic Products Co., 118 North Third St., Albuquerque, N. M., and 515 Shepard St., Toledo, O., the Gaco Engraver's Sensitized Resist was developed especially for coating magnesium plates by the photoengraver. It is intended for use on 16 ga. and 11 pt. plates and for use on thin magnesium relief (dry) offset plates. Sponsor states that the materials used in photoengraving plants were entirely unsuited for making magnesium plates. Rapid corrosion by tap water resulted in poor adhesion of resists. The ever-changing denaturants used in alcohol type developers were a constant hazard. Galvanic corrosion was encountered if the magnesium plate came into contact with dissimilar metals.

The Gaco Engraver's Sensitized Resist was formulated to overcome these difficulties. Among the claims made by sponsor are: (1) Has a longer sensitivity range and plates may be pre-coated and stored for periods ranging from one to two weeks; (2) This long range sensitivity lends itself to photocomposed multiple image plates, like labels, forms, etc.; (3) The resist permits production of fine screen engravings on magnesium; (4) More etch depth on first bite can be obtained with less loss of color; (5) Shadows and middletones hold full color throughout etching operation thus reducing staging time; (6) Processing steps are similar to those used in most engraving plants—plate is coated, exposed, tap water developed, chemically fixed and blackened for good contrast and then is given a low temperature burn-in. A bulletin is available for the asking.

Printing Rubbers Catalog

THE advantages of using rubber for certain types of printing is explained in a four page bulletin entitled *Printing Rubbers and Materials*, issued by The B. F. Goodrich Co., Akron, O. Recommended services for printing on various surfaces with rubber, maintenance tips on inks, plate washing and storage, are included in the bulletin, Detailed information is provided on engraving rubbers, including their construction and a table of specifications on each of the grades. Also described in the 8½ in. by 11 in., two color bulletin are unvulcanized printing rubbers, adhesive and friction fabrics, backing material and adhesives used with printing rubbers.



Rotary Air Motor — A large Gast No. 8 rotary-vane air motor offers the advantages of variable speed drive with valve control, explosion proof safety in hazardous locations and proof against damage when slowed or stalled by overloads, according to Gast Mfg. Corp., Benton Harbor, Mich. Operating range extends from ½ h.p. at 500 r.p.m. to 3 h.p. at 1500 r.p.m. for the reversible type. Non-reversible models deliver up to 4 h.p. Adaptable for air pressure from 30 to 80 p.s.i., the motor uses from 20 to 100 c.f.m. depending on r.p.m. and load. Specifications: width, 5¼ in.; length, 8$\frac{5}{32}$ in.; height with base, 6$\frac{5}{32}$ in., and weight, 25 lbs.

Speed Instruments

THE O-Z Hand Tachometer and the O-Z Hand Tachograph are two improved speed indicating and recording instruments reported by O. Zernickow Co., 15 Park Row, New York 7, N. Y. The tachometer is designed for indicating r.p.m. and f.p.m. speeds, speed fluctuations and belt slippage. The instrument furnished with a 3 in. dial, single spindle, quintuple selective range and rotating gear shift. Available in different range combinations for speeds from 30 to 48,000 r.p.m. and from 15 to 24,000 f.p.m.

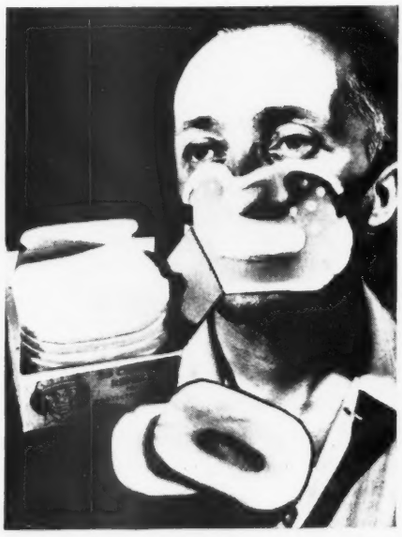
The portable tachograph draws graphic charts of speeds on a traveling strip of paper for reference purposes. The time is marked horizontally and the speed vertically. Instrument will record r.p.m. and f.p.m. speeds, speed fluctuations, accelerations, decelerations and belt slippage. Sponsor claims accuracy of 0.5 per cent at any point of scales.

Rubber Plate Manual

TECHNICAL knowledge gained about rubber and thermoplastic printing plates from thermosetting matrix material is provided in a 16 page manual prepared by Monomelt, 1611 N. E. Polk St., Minneapolis 13, Minn. The manual is divided into three major divisions: Introduction to the procedure of molding Bakelite matrix material; Process involved in molding thermoplastic duplicate printing plates; and Molding of rubber printing plates. Drawings illustrate the molded matrix, matrix mold assembly, plastic plate mold assembly and rubber plate mold assembly.

Soft-Metal Melting

A 20 page booklet has been assembled by The Partlow Corp., New Hartford, N. Y., for heating engineers who melt or alloy the soft metals in open pots. Entitled *Automatic Gas Firing Systems for Soft Metal Melting & Pot Furnaces*, the booklet contains information on three basic types of systems—electric control, mechanical control and two-stage heating. Appropriate wiring diagrams and specifications on suitable stereotype pots and electrotype furnaces are also provided.



G-S Protective Masks—The G-S Protective Mask for industrial use is designed to protect throat, nose and bronchial tubes from larger particles of non-toxic dusts that irritate these membranes, causing discomfort and increased susceptibility to infection. Announced by General Scientific Equipment Co., 2700 W. Huntingdon St., Philadelphia 32, Pa., the mask consists of an aluminum shield, which is held in position by an adjustable elastic head band, and replaceable laminated filters. Weight of the mask is a ½ oz. Effectiveness is seen by discoloration caused by dust on the filter as indicated by the cotton refills in the lower part of the illustration above.

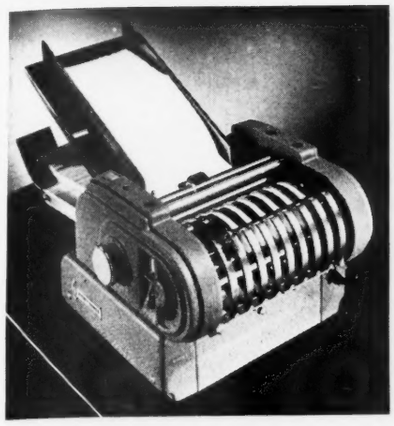
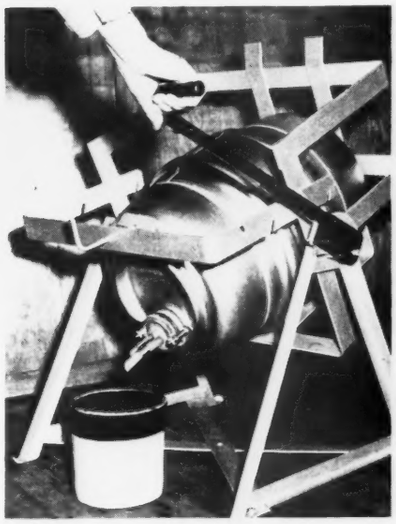
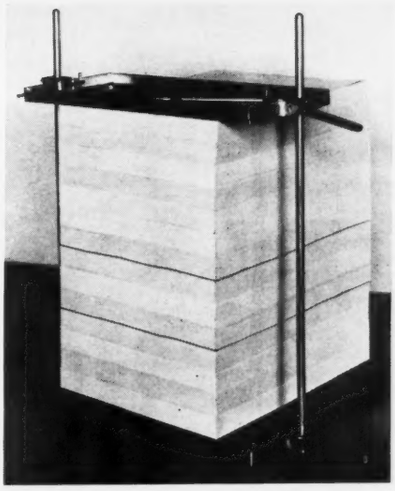


Table Model Folding Machine — An electric folding machine designed for performing eight basic folds from a radio dial type of setting called the Dial-a-Fold, is sponsored by Pitney-Bowes, Inc., Stamford, Conn. Maker states the machine will put two parallel folds in an average sheet of paper at 10,000 sheets per hr., feeding and stacking from the same end of the machine. Pitney-Bowes claims the folder will handle a wide variety of paper stocks, sizes and weights at speeds up to 19,000 per hr. Included are duplicating, bond, ledger, book, coated and uncoated papers in weights from 16 to 24 substance, and in sizes ranging from 3 in. by 3½ in. to 11 in. by 24 in. Specifications of the machine, known as the Model FM, are: length, 36 in.; width, 18½ in., and height, 20½ in.

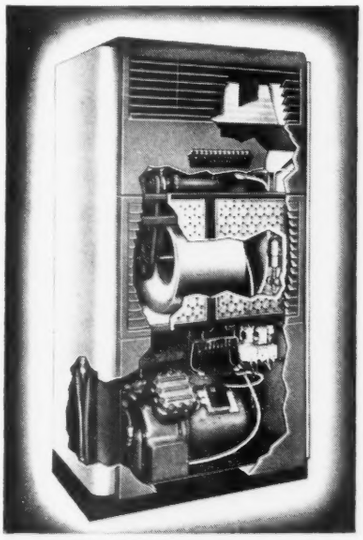
G-S Safety Tilter — General Scientific Equipment Co.'s Safety Tilter with pouring spout provides a safe, fast and convenient method of draining acids and other liquids from stainless steel barrels. A locking device permits the tilter to be held at any angle for pouring. Sponsor states the air vent pouring spout insures an even



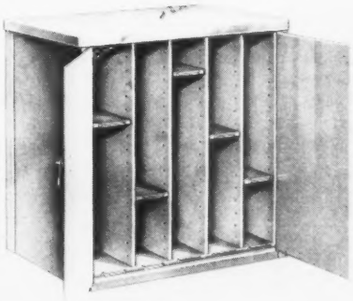
flow of liquid without spurts or splashes. Flow capacity is 5 gal. per min. Further information can be obtained by writing the company at 2700 W. Huntingdon St., Philadelphia 32, Pa.



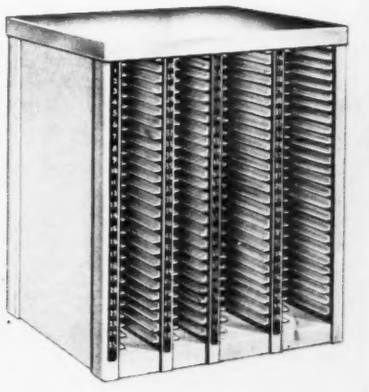
Magic Padding Press — This padding press is designed to lock a stack of paper in place under pressures up to 200 lbs., states Turner Printing Machinery, Inc., 2630 Payne Ave., Cleveland, O. Sponsor states that after the device is locked, it can be moved anywhere without loss of pressure. Pressure is released by lifting up extended side levers. Base and pressure plates are of aluminum construction. Extended levers are of hardened steel, while guide rods are of cold rolled steel. Two sizes are available: the 12 in. width takes a lift of paper up to 16 in., the 18 in. width handles up to a 24 in. lift of paper.



Westinghouse Air Conditioner — A factory-assembled packaged air conditioning unit designed for industrial application, has been announced by Westinghouse Electric Corp., Sturtevant Div., 200 Readville St., Hyde Park, Boston 36. Designated Unitaire, it can provide year-round air conditioning by addition of either steam or water-heating coils and an outside air duct connection for ventilation air supply. Available in three sizes: two, three and five h.p., with cooling capacities of 24,000, 36,000 and 60,000 B.t.u. per hr. respectively. Floor area: smallest unit, 36 in. by 22½ in. by 68¾ in. high; largest unit, 44 in. by 22½ in. by 77⅛ in. high.



Artwork Storage Cabinet—Permits art work, negatives and plates to be stored on edge, states Hamilton Mfg. Co., Two Rivers, Wis. Prevents damage to costly art work which can occur when retouched photos and the like are piled one on top of the other. Vertical compartments are 5¾ in. wide; 34 in. high, and 23¼ in. deep. Each compartment is supplied with an adjustable horizontal shelf. Label holders provided for each shelf and compartment. Doors fit tightly to keep out dust. These cabinets can be stacked three-high where floor space is limited.



Dual-Size Galley Cabinet — Hamilton Mfg. Co., Two Rivers, Wis., states it has available a Four-Tier Galley Cabinet (No. 13547). The cabinet accommodates both news and job galleys (50 of each). The cabinet is intended to be useful in the combination newspaper and job plant, especially in those plants having limited floor space.

Unit Heater Lift Assembly — Elimination of physical labor, the cutting of installation time and convenience in lowering and hoisting overhead unit heaters to be cleaned are claimed for a Lift Assembly made by Reznor Mfg. Co., Mercer, Pa. The Lift Assembly brings heaters within 7 in. of the ceiling and can be used with or without the 24 in. and 36 in. Reznor hanging boards.

Improved Lawson Cutter

AN adaptation of the Series V Lawson Electronic Spacer Cutter with the rear table extended to handle paper sizes up to 76 in., will be known as Model 52-T-76, according to the E. P. Lawson Co., Inc., 426 W. 33rd St., New York 1, N. Y. Features of the Electronic Spacer and Hydraulic Clamp Cutter have been retained in the improved model. Operating speed of the cutter is 43 strokes per min.

Miehle Offset Night—An informal panel discussion on the subject *The Flow of the Sheet from Feeder to Delivery* featured the Miehle Offset Night program at a recent meeting of the Cleveland Litho Club. Miehle experts pictured on the speaker's platform, from left to right, are: Charles A. Harwood, Midwest Offset Representative; Milton E. Cornman, Chairman of the Cleveland Litho Club's publicity committee; Chris Kaddeland, Consulting Engineer; Ben L. Sites, Chief Research Engineer; Henri Peyrebrune, Vice President in Charge of Engineering; W. Stewart Grau, Chief Engineer, Offset Div.; and Ted C. Schwab, Chief Tester, Offset Div.

Koloroid *Color Proofing Process developed for pre-proofing by all photomechanical processes—Proofs made from separation screen or continuous tone negatives*

By JOSEPH E. JOHNSTON*

**Consolidated Hammer Dry Plate & Film Co., St. Louis, Mo.*

THE Koloroid Color Proofing Process is a simplified method of making full color, ink pigment color pre-proofs from separation screen or continuous tone negatives. The Koloroid Color Proofing Process will color-proof every type of job. Whether flat color work, duotone, or four color process, accurate registration is easily obtained. There are no size limitations. Reproductions in color from a postage stamp to a 44 in. by 64 in. poster can be proofed with accurate register. Your vacuum printing frame, a squeegee roller, a ferrotype, and a hole punch are used for producing Koloroid Color Proofs. A four-color process proof can be made in less than an hour from separation negatives.

The Koloroid Color Proofing Process will not make color proofing by press equipment obsolete. It will help color proofing by making it possible to obtain finished color plates that are more accurately made than ever before, due to the pre-proofing in color and the accurate correcting that can be made in the plate-making process.

Joseph E. Johnston Inventor, Koloroid Color Proofing Process. His associate, Jim Wells, contributed much to its development.

To understand the process, it is necessary to visualize the materials employed and the procedure involved in making Koloroid proofs. The pigment paper is an ink impregnated, colloid coated paper which is roller coated to exact thickness. It is made in the full range of standard printing ink colors. Koloroid colors are transferred to a water repellent specially treated base or proofing paper, which accepts the photographic color ink pigment image. Koloroid base paper is furnished with the pigment paper.

Each basic color is controlled by exposure. For example, a strong chrome yellow can be cut to a light lemon yellow by reducing the exposure time. For this reason, when the process is first used, it is essential to know the exact effect your exposure will have. Therefore a complete Koloroid color chart is made up by exposure variations with the printing lamp. This is done by setting one strip of each color of the sensitized Koloroid pigment sheet (yellow, red, blue, and black) in a vacuum printing frame, placing over the strips a die-cut mask which is furnished in each box of pigment paper. The printing frame is then closed and placed under vacuum, ready for exposure.

Distance from the light source to the printing frame must be accurately measured, with positions marked on the floor to assure exact duplication of results. Expose the entire masked area 1 min.; then block out position No. 1 on each color with opaque paper over cover glass of printing frame, and give the balance of the area one more minute. Repeat this until the 10 masked areas have been progressively exposed — each position having received a minute longer exposure than the preceding position.

After exposure has been completed, remove pigment paper and develop in warm water; then transfer to the Koloroid color chart base paper which is coded and spaced and marked for color. This color chart when developed is a complete four-color chart with 10 different shades for each color. This gives a range of 40 different 100% solid colors—shades of black, red, blue and yellow. With this Koloroid color chart the proofer is now ready to select the exposure time needed to match the inks on the job.

Just as inks in printing can be lightened by adding mixing whites and other materials, so can color be varied in the Koloroid process by reducing or lengthening the exposure time. Koloroid Color has the same latitude and printing quality as a printing ink and can be called a photographic ink process with control of color value obtained by varying the time of exposure to light.

The proofer is now ready to make Koloroid Color proofs. The inks have been selected from the color chart. For example, assume the yellow needed is duplicated by the yellow exposed 3 min., red 5 min., blue 4 min., and black 6 min.

Steps in the process are as follows:

1. One sheet of each color of the pigment paper is sensitized by placing in a tray for 2 min., containing Koloroid sensitizer. The paper is then hung up and dried like film.

2. Color separation negatives should be prepared for proper register, in Koloroid proofing by punching three holes in each negative.

3. When the four Koloroid sensitized papers are dry, place them in a vacuum printing frame. Place each of the four color separation negatives which have three punched register holes in direct contact with its corresponding color—the yellow negative on the yellow pigment paper, the red on the red, and so on.

4. Expose all four sheets of Koloroid sensitized pigment paper as indicated by the chart. In this example, as outlined above, this would mean that all colors would be exposed 3 min.; then the yellow would be blocked out, and the blue, black and red would be exposed one more minute. Then the blue would be blocked out and the black and red would receive one more minute, then the red would be blocked out and the black would be given one more minute. With this, all of the Koloroid pigment paper has been exposed the proper times.

5. The inks of the exposed pigment papers are each deposited on a Koloroid

base sheet one at a time—laying one color over the other, developing each color before the other is put on. The yellow is placed on the base sheet and developed. The red is superimposed on the yellow and developed. The blue is superimposed on the yellow and red proof and developed. The black is finally registered on the yellow, red and blue proof and developed. In this manner a four color Koloroid color proof in actual ink pigment colors is made.

Koloroid Color proofs give the color photographer a proof of his color separation negatives in full ink colors. It enables the color photographer to do color masking and check results before the retoucher or color etcher receives the negatives. It gives the cameraman an opportunity of developing better color separation techniques. He knows what the results of his separation negatives are before he turns them over to the color retoucher or etcher.

The color retoucher or etcher has a color proof of the separation to compare with the copy and can see how the colors match and what retouching or etching is necessary.

Successful Material Handling

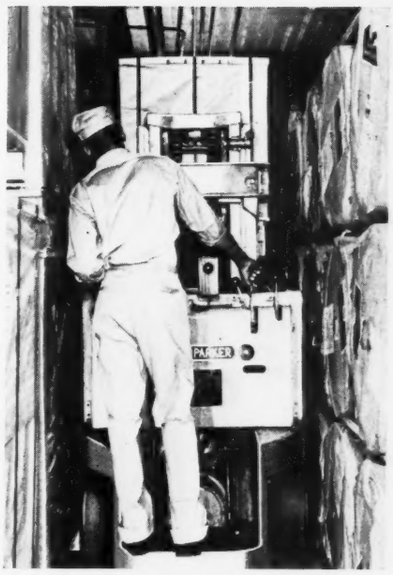
By W. C. BRYAN*

**Material Handling Engineer, Elwell-Parker Electric Co., Cleveland, O.*

SUCCESSFUL publishing from the material handling executive's viewpoint when the plant operation is of sufficient volume, is a tonnage proposition. An important factor is handling raw materials and finished products economically.

For more than two years, two battery-powered trucks have been operated in the Methodist Publishing House's Nashville, Tenn. plant with practically no maintenance. They do the heavy carrying jobs for tons of paper, binder board, inks, raw materials of all kinds, some equipment and loads of bible, hymnals and other religious publications.

Manpower, meaning muscle - power, could be ill-applied to such continuously heavy work, yet if the cost of manpower were to be figured the saving in money alone has already paid for the trucks. Each truck with a driver accomplishes as much work in transporting and stacking ponderous loads as would require at least four men working with ordinary hand-operated equipment. There is also a saving in time, representing the difference between handling large unit loads and relatively small amounts.



Electric power high-lift platform truck transporting load of flat stock in narrow aisle. Aisle width need be only 48 in. for passage. Truck facilitates close, orderly storage with maximum use of floor area. Electric truck also makes this work free from fire and fume hazards.

For example, rolls of paper weighing from 1700 to 2300 lbs. are picked up and moved quickly and safely. The largest, heaviest rolls are stacked three, and sometimes four-high, thus utilizing overhead space, important in storage. Formerly gangs of men wrestled these rolls, managing to stack the largest two-high and the smallest three-high. Time, danger and congestion are elements in manual work of this kind. Flat stock in loads up to 5000 lbs. are handled mechanically in a fraction of time once required in moving equivalent weight in small "takes."

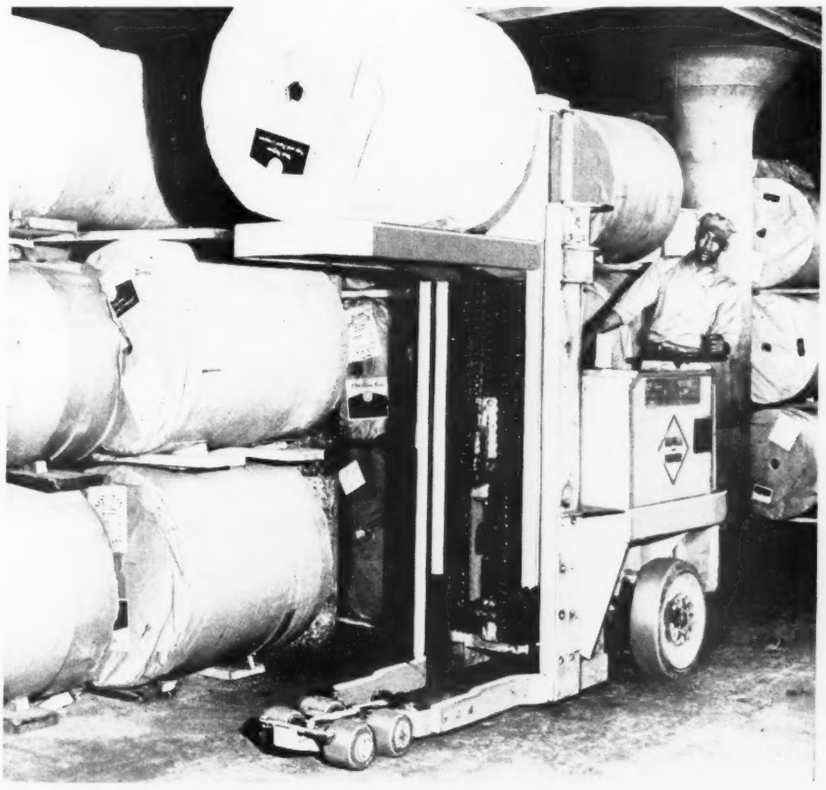
The trucks are of the high lift platform type and the loads are handled on skids or directly on the platform. Load capacity is 6000 lbs. and the platform elevates from a low of 11 in. to a high of 113 in.

The trucks weigh approx. 1000 lbs. less than fork trucks of corresponding capacity, the reason for this being that fork trucks require counter-balancing. Under some conditions this is an important factor in both floor and elevator loading.

Platform trucks also have an additional advantage in that the platform can be loaded from the side which facilitates the handling of rolls stored horizontally. They can maneuver in aisles as narrow as 48 in. wide and their loads can be taken on or removed from either side in these close storage areas.

The comparatively light-weight, high-lift electric power platform trucks have a wide range of usefulness in paper and publishing plants. Fork trucks and roll-clamp trucks also are used extensively. The choice, however, is dictated by individual requirements and experience.

At Methodist Publishing House production, due largely to a modernized sys-



Platform truck may be loaded or unloaded left or right, making it easy to handle roll paper in horizontal storage, as at Methodist Publishing House's Nashville, Tenn. plant. Rolls are separated and supported by means of wood planks and only small wedges are necessary to prevent their movement beyond desired point. This system and equipment have been found entirely practical, safe and economical in many publishing and paper manufacturing plants.

tem of load handling, has been increased 25 per cent. While the normal work shift is 8 hrs. and the work week 40 hrs., extra shifts have become necessary, running up total working time to 60 hrs. a week. This has provided more work for employees in the skilled and semi-skilled classifications, at the same time that the burden of tonnage has been reduced. There is an important relationship between these factors.

The house in Nashville has been employing 400 persons. Increased production has made it necessary to construct an additional building, doubling floor area. A new loading dock will accommodate six highway trailer-trucks, and loading is carried on with the aid of electric trucks. Due to better loading by this means road trucks carry one ton of waste paper more than formerly. The largest savings are in time and labor.

Screened Effects in Stereotyping

By J. D. LITHGOW*

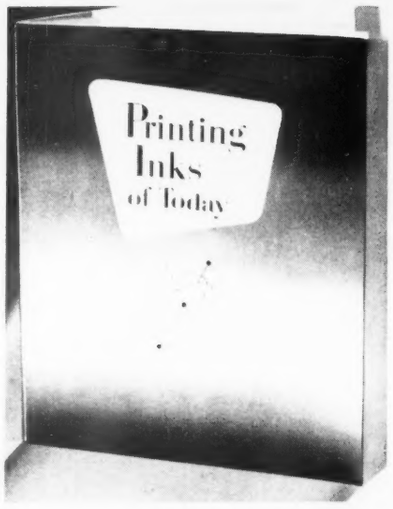
**Mechanical Supt., The Hamilton (Can.) Spectator. Abstract from address delivered before PNPA Convention, October 1950.*

A FREE service to our advertisers consists of screening the background of type, to make what is in effect a screened cut. We use a great many of these screens in *Spectator* advertisers. Our customers think it peps up their advertisements.

Making these screened effects is not a complicated matter. First, we had the engravers make a full-page zinc of highlight screen plate. The one we are using has been in service for years. We prepare our mats in advance by molding a number of them from the screen engraving. These screened mats are powdered and set aside for future use. When an advertiser wishes a part of his advertisement to carry a screened background, the part to be screened is sent on a galley to the stereotypers with a proof, giving size and design. There the galley and type are underlaid with a soft cushion of matrix paper or newsprint and a piece of the already screened mat is laid screen side down on the cut or type and moulded, thus pressing the type into the mat. The required pressure is predetermined and dictated by experience. The powder is then brushed off the screened mat leaving it only where compressed by the type or image. The type will then print black with screened background. The mat is then cast and cut to size.

These screened stereotype mats which would ordinarily call for an engraving can be made almost as rapidly as molding an ordinary cut, particularly as a number of them may be molded at one time. We have had to make a deadline for these screens of 3 o'clock the day before publication, the demand for them is so great. We frequently carry 50 or 60 screened advertisements or parts of advertisements in one issue.

There are several different applications of this method. For instance, should an advertiser wish a line of type with a screened face, we place the type on a galley and lay the screened zinc engraving face down on the type. It is then rolled in the molding machine and the screen is impressed into the type face. This can be done with either Ludlow or Linotype slugs. In the case of foundry type, however, it is necessary to make a stereotype casting before the type is screened.



Printing Inks of Today —Advancement and research progress in printing inks made up the contents of the 12 page booklet *Printing Inks of Today*, prepared and published under the auspices of the National Assoc. of Printing Ink Makers. The rainbow printed cover is strikingly done in yellow, red, blue and black. Various sections of the book deal with new developments in printing techniques, new papers require new inks, printing processes advance, new drying technique, developments in ink setting, research promises new vehicles and faster setting inks for lithography. Also gloss ink developments, making inks scuff-resistant, inks and odor problems, inks for tin and cellophane printing, poster inks, ink research, gravure and aniline inks and inks of tomorrow. Copies of the book are available, without cost, from members of the Association or by writing the NAPIM at 1440 Broadway, New York 18, N. Y.

Technical Research

In the Graphic Arts Industry—Speaker discusses some accomplishments of the Research and Engineering Council

By EDWARD J. TRIEBE*

**Vice Chairman, Research and Engineering Council, and Vice President of Kingsport Press, Kingsport, Tenn. Abstract of address prepared for ITCA convention, Hotel Sheraton. Chicago, September 1950.*

TO conduct research successfully in the Graphic Arts, there is a sensible path which should be followed. That is, provided sufficient statesmanship pervades the industry to create and use tools shaped by the co-operative efforts of men in the industry. Research lends itself particularly well to such co-operative endeavors. To carry out this work we have trade associations, such as the ITCA, BMI, PIA, LTF, and dozens of others in the Graphic Arts, each carrying on its own brand of research in raw materials, processes, cost accounting, labor relations, etc. Add to these the research activities of companies such as Intertype, Lanston, Mergenthaler, ATF, Lithomat, Time and Life, the suppliers of press and binding equipment, plastic, rubber, magnesium and a host of other things. One sees in the Graphic Arts an era of many new things to come. These all point towards greater productivity, holding our markets, braking the continual rise of our costs, and if possible reversing the trend so that we can put more ink on more paper at lower cost. Obviously, with so many projects afoot all within the confines of what we call the Graphic Arts, there are bound to exist duplications and overlappings, parallel research activities on the same or nearly the same problem, causing considerable waste of money and effort which eventually we manufacturers pay and pass on to our customers in the form of higher prices.

The Research and Engineering Council of the Graphic Arts Industry has been formed for the purpose of co-ordinating non-confidential projects, and by creating a common meeting ground, to keep the industry posted about who is working on what. My own trade association, the Book Manufacturers Institute has already benefited by the two-year existence of the Council in the matter of static control and stamping inks. Plagued by these problems, we would probably be spending our own research funds on both had we not learned through the Council of at least four other very similar studies already afoot. Instead, members of our organization are now serving on the committees of these other agencies, adding our troubles and experiences to the pool of knowledge for a common assault on the problem.

Applied research, besides being an excellent front door to your industrial edi-

fice through which to bring in greater productivity in the form of new machines and methods, can also provide other entrances through the study and improvement of machines, and especially methods you already have. Labor relations, cost accounting, production measurements, floor layouts, market analysis, safety programs—all are actually the end products of applied research.

The payoff on such projects is your use of them. No series of research projects can ever be wholly right or wholly successful. But when men in our industry who know the score and whose combined abilities we couldn't buy with all the tea in China, have labored in committee to produce these projects and hand them to us for our use, the measure of our industrial statesmanship depends on whether or not we choose to ignore them. I by no means wish to imply the necessity for the *acceptance* of anything, but we should at least choose to be constructive critics.

Next, let me call your attention to a prime and fertile field for applied research—the controversial ground of labor, or personnel relationships. I am not one of those who believes that management has abdicated its rights, privileges and responsibilities in this field to the unions, nor do I subscribe to the belief that the unions have not greatly contributed to the progress of our industry. But between these two extremes lies a no-man's land, a stalling on dead-center, in which our own people, our own employees, are the pawns used on the chess board of contract negotiations. This condition exists only because somewhere along the line we have muffed or ignored some of the fundamental facts of life which apply alike to any human being, be he owner, manager, or worker.

A composing room can have the best equipment available, and a layout and process progression arranged by the best engineering skills—yet, if it is not manned by efficient employees with the will to produce, the end product is nothing. Each individual has certain capabilities and quantities that make him the master of his job. It is an industry problem, one which management cannot delegate. Management must unearth these individual capabilities by proper training in the right job to the highest peak of efficiency. Without this research into sound labor relations, we lack the capstone to the whole edifice.

Research is a deeply involved endeavor, full of frustrations and failures, and often paying off only after long, hard, grubby work. The Graphic Arts is moving into it—or as some say is being shoved into it by circumstances beyond its control. We cannot avoid nor ignore it, for its effects will touch us all. The one best thing we can do is to act like the camel and get our collective noses in the tent.

The Research and Engineering Council has a force of nearly 200 men who are actively participating in the work of Council Committees. These men represent all types of companies in the printing and in the equipment and supply industries. They are contributing their time to the work of the Council.

Here is an example of the approach to a specific problem. The printing industry badly needed an automatic sheet counter to eliminate hand counting of printed sheets off the press. The Council made the need known to manufacturers. Now we have two or three on the market which put tabs at predetermined intervals in piles of delivered sheets.

An example of the approach to a general problem (to pick one at random) is the bulletin on *Magnesium Plates* published by the Council. Here all the expert information and experience available on this subject were collected and published for the benefit of the entire industry.

Another example is the publication of the *Plate Conference Proceedings* following the recent meeting in Columbus, O. This is a good example of a group in the Council getting together to identify and define the problems in a branch of the industry.

Looking at the potentialities of the Research Council, I can see it solving one of the major weakness of the Graphic Arts industry—the failure of equipment manufacturers and their customers to get together on what the industry really needs to increase production, lower costs, eliminate waste and improve quality.

All of us have heard printers, especially practical men in the shop, say: "Why don't the equipment people consult us before they build a new machine or make changes in a previous model? We know what the shortcomings are in present machines; we know what should be done to improve them. Instead, they go ahead and build something which they think the industry wants or will buy. We have to take what they build, instead of getting the kind of machines we really want."

That's a good point, but the equipment manufacturers have an answer for it. Printers simply haven't told the equipment prople what they want, at least not enough of them to help the manufacturers arrive at reasonably safe conclusions as to what printers really want.

The failure of the printing industry to make its needs known is, I believe, on the way to being remedied by the Research and Engineering Council. The development of the tab-inserting sheet counter is an example of what can be done.

I believe it is significant that membership of the Research Council consists of both manufacturers and users of printing equipment. It's not a case purely of printers organizing to tell the manufacturers what is needed. Rather, it is a case of both groups getting together to consider the needs of the industry. Each group has a stake in the matter. Printers want equipment which will insure profitable operation. Equipment manufacturers can't stay in business if they don't provide the industry with what it needs for profitable operation.

I urge you to give your support to the Research and Engineering Council, not only by subscribing to its *Research and Operations Manual*, but also by taking an active part in its projects which are designed to help all branches of the Graphic Arts industry produce a better product at a lower cost.

Two Stereo Hints

IN AN emergency, when the usual cement or tape has been exhausted, the following suggestion may help out: In cases where stereo shell casts, plastic plates and zinc photoengravings lie free on their mounting base, a few rubs of beeswax on the back of the cut provides a partial lamination between cut and base and prevents walking of the cut on the base while the form is being molded.

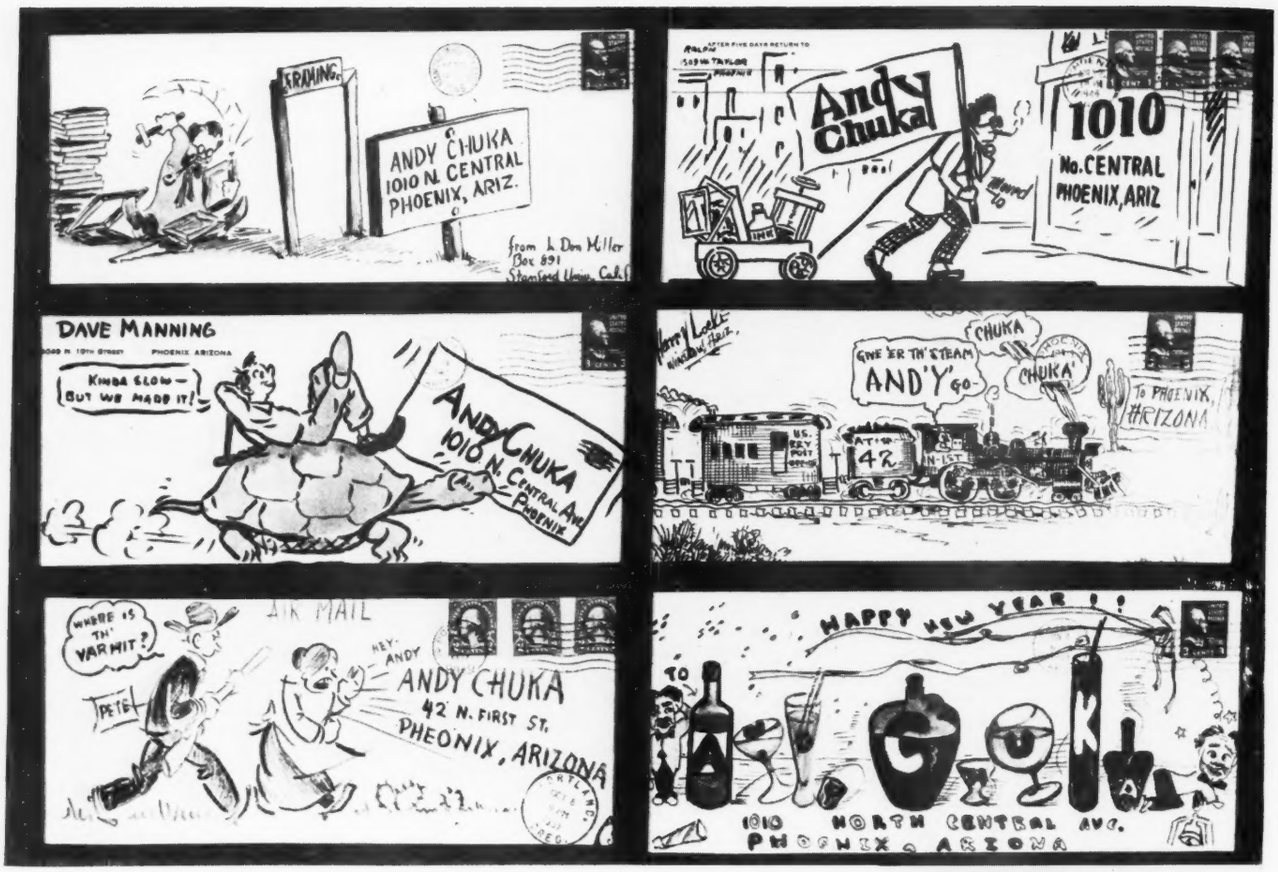
When a chip or foreign matter on the form inadvertently escapes attention of the stereotyper and is molded into the mat, it is not necessary in most cases to roll a new mat. First, of course, remove the metal chip from the form. Then return the mat in molding register on the form. With a smooth object, rub the back of the mat over the affected area to iron it out. To prevent the back of the mat from scuffing while rubbing vigorously with the smooth, rounded-corner object, stroke the affected area on the back of the mat with mailing room wax crayon. The crayon residue on the back of the mat makes the surface slippery and effectually prevents scuffing.

Color Reproduction System

The RCA Victor Div. of Radio Corp. of America has announced that under an agreement with Interchemical Corporation it is entering the field of color reproduction equipment for the Graphic Arts. RCA will undertake a comprehensive engineering and development program intended to perfect and make available to the Graphic Arts industry the precision reproduction and time-saving advantages of Interchemical's Electronic Correction Apparatus. The system is designed to provide four color corrected separation negatives (included a balanced black negative) which produce four-color process plates possessing fidelity of color reproduction superior to those made in the conventional manner.

IPI 1950-51 Contests

Several new features are included in the 1950-51 IPI Essay and Certificate Design Contests announced by Fred J. Hartman, Educational Director of the National Graphic Arts Education Assoc. Essays in this year's contest will be written on the subject *You and Color Printing*, and will include cash prizes amounting to $1190. More information can be obtained by writing International Printing Ink, 67 W. 44th St., New York 18, N. Y.



Carriers art huka's ute ommunications

Here are some of the illustratively addressed letters sent by his artist and printer friends to Andy Chuka, Phoenix, Ariz. So well has Andy impressed his mark upon the Postoffice Dept. in Phoenix, that it makes no nevermind if the street address is missing from the envelope. Chuka (inset) has made it a point to keep these envelopes with the screwball addresses like those shown above.

This reminds us of a dear friend who at one time did a considerable mail order business in Toledo. Postoffice employees in that city got to know him well even though many of them had never met him personally. The point is that a letter came to the Toledo postoffice one day addressed simply: "Colonel Bunk, Toledo, O." The letter was delivered promptly.

Chuka operates a small printing business and he also does picture restoring and framing. From our position in Cleveland we're unable to say which business is dominant in Chuka's life—and we don't care so long as he's useful to society.

Chuka is well known to many Craftsmen throughout the country. People who know him haven't extended themselves for an introduction—Chuka just takes 'em on primarily through amiable personality and spontaneous speeches from the floor. After hearing him talk a few minutes they start calling him Andy just as though they had been life-long friends. He can talk at the drop of the hat. Loves to penetrate his voice into Craftsmen. Would as gladly tell you why sparrows are nearly extinct in Arizona due to disappearance of the horse, as he would to perorate about California using God-given water from the Colorado river which by rights belongs to the people of Arizona.

Chuka is a kindly guy—has no vicious thoughts. He's proud to call himself a printer. To this day, however, we don't know whether he makes his living from printing and does picture restoring for a hobby—or vice versa. Anyhow, Andy tells us 1951's meeting of the Pacific Society of Printing House Craftsmen will be held in Phoenix. He must have done the inviting at the 1950 Seattle meeting—we'll say that much for him. Miniature in stature, the guy is downright persuasive.

R&E Council Booklet

The Research and Engineering Council of the Graphic Arts Industry, Inc., has published a 16 p. and cover booklet, 8½ in. by 11 in. size, bound in Kromkote. Contained in the booklet is an explanation of its development, organization and purposes. There is a Foreword by President Frank F. Pfeiffer, a brief history, basic purpose of the group, policies, objectives, a chart showing organization in relation to the component crafts which make up the Graphic Arts industry, by-laws, and other information. The reader can grasp readily the reasons for existence of the Council. A copy may be obtained from the headquarters office at 719 Fifteenth St., N.W., Washington 5, D. C.

Cooperative Hookup

The association of The Stevens-Nelson Paper Corp. and The Hobson Miller Paper Co., Inc., was announced recently by George A. Nelson and Hobson Miller, presidents of the respective companies. For the present, each firm retains its separate identity and all present officers will be maintained as they are.

Cellulose Acetate Offset Printing Plate

By WALTER CLARK*

*Kodak Research Laboratories, Rochester, N. Y. Communication No. 1354 from the Kodak Research Laboratories. Paper delivered before Technical Assoc. of the Lithographic Industry, Rochester, N. Y., April 1950.

A VARIETY of proposals have been made for using so-called "plastic plates" as substitutes for zinc and aluminum in printing by offset-lithography. Some of these have been based on the use of cellulose acetate sheet, the surface of which has been hydrolyzed to convert it back to cellulose itself. In some processes, the unhydrolyzed sheet is sensitized by coating with a material which can be used to form an image which acts as a resist against subsequent hydrolyzing of the sheet. In another form, the sheet is prehydrolyzed all over, and the hydrolyzed layer can be sensitized in such a manner that on exposure to light a change takes place which renders certain parts of the layer ink-receptive. In another system, the sheet is prehydrolyzed and then sensitized, and then processed to remove the hydrolyzed layer in the exposed areas.

The underlying principle in all these cases is that cellulose itself is wettable with water and thus repels greasy ink, while it is possible to change the cellulose or remove it and obtain ink-retaining areas. Lithographic printing plates result.

In the process to be described, which is still in the experimental state, and which is known at present as the Ektalith process, the cellulose acetate sheet is uniformly hydrolyzed in manufacture. The acetate is specially selected, for experiments have shown that the nature of the sheet and the way in which it is made play a very important part in determining its behavior. The depth of hydrolysis is also very critical, and is selected to give an optimum as far as ultimate sensitivity, image quality and wearing properties on the press are concerned.

The Ektalith sheet is being made experimentally at the present time in two thicknesses—approx. 0.005 in. and 0.010 in. There are three forms under study. For the thinner sheet, a single sheet of acetate is laminated to one side of a sheet of metal foil, or else the acetate is actually coated in a thin layer on the foil. In the case of the thicker sheet, a foil of acetate is laminated to both sides of a metal sheet. In all cases, an orange antihalation dye is included somewhere in the structure.

The Ektalith sheet is sensitized with a solution of bichromate containing a wetting agent. This can be done by a squeegee type of applicator or in an ingenious manner by means of a wringer. Two sheets of the material are put face to face between two sheets of blotting paper which are larger than the film sheets. One end of the sandwich is gripped between the two rollers of a wringer, and the sheets are separated to form a V. A generous bead of sensitizing solution is applied across the full width of the V, and the sandwich is slowly fed through the wringer, care being taken that the bead of solution remains unbroken. The excess squeezed out at the end and sides is absorbed by the blotter. After the sheets are removed from the wringer, they are separated and dry in a few seconds in air. They can be stored in a dark drawer for about 12 hours. This method of sensitizing involves no whirler and no drying cabinet.

The sensitized sheets are exposed in the conventional manner in a vacuum printing frame under line—or halftone negatives. The conventional light sources are used. The exposure is approximately that needed for a zinc-albumen plate.

It has been found convenient to process Ektalith sheets on a plastic board covered with blotting paper, or on other types of absorbent block, the ends of the sheet being held by spring clamps.

Processing consists in swabbing the sheet with a solution of alkali, or alkali containing an oxidizing agent, using a swab of cotton batting. This operation may take a minute or less with line work, but two minutes may be needed with fine halftones. The next stage is to swab for a short time with an acid bath to neutralize the alkali. The plate is then ready for printing after rinsing with water, but it is customary to develop the image with a special dye which will be rapidly taken up by the image areas. After this, the sheet is swabbed again with the neutralizing solution, rinsed with water and dried with chamois.

If the dye image on the plate indicates faulty processing, it is possible to reprocess the entire plate or just local areas, to correct the error.

In the processing of the plate, the cellulose is removed from the areas which have been exposed to light, so uncovering the underlying cellulose acetate surface. This surface is not wettable with water, and forms the ink-receptive areas. It appears that during exposure of the bichromated cellulose, some oxidation occurs to form carbonyl, aldehyde or even carboxyl groups, which provide weak links in the cellulose chain where breakdown starts in the presence of alkali, resulting in removal of the cellulose.

The Ektalith plate produces a printing surface which has very good resolution, since there is no grain in the surface of the sheet, has excellent ink-water differentiation, good running qualities, and good life. Runs of 75,000 have been readily obtained with line work, and 40,000 to 50,000 with fine halftones, before breakdown occurs. It appears to give sharper, cleaner impressions, better ink density and less tendency to scum than grained-zinc plates.

Although conventional offset inks can be used with the Ektalith sheet, a study is under way to determine the best inks for color reproduction by the process, since many inks made for zinc and aluminum are not the best for Ektalith sheet.

Very satisfactory color reproductions can be made from Ektalith sheet, using small offset duplicating machines such as the Addressograph and the Davidson machines. In fact, a program is being developed for the production of high-quality, moderate-run and low-cost color illustrations, based on the use of the Ektalith sheet and small offset presses. Very promising results have been obtained, and it is believed that further work on this system may provide a means of putting color illustrations into a great variety of publications—for example, in the scientific and technical fields—where the present cost of color illustrations is prohibitive.

In view of the high quality obtainable in monochrome halftone reproductions, the low cost of the small presses, and the low cost of preparation of the printing plates, setting up the press, and operating it, the Ektalith material may have many uses in fields where illustrations are at present expensive or not made—for instance, scientific textbooks and magazines, astronomical photographs for distribution to observatories, advertising leaflets in great variety, etc. It is even envisioned that it might well play an important part in small-newspaper production.

Most of the experimental work on the material was done in the Graphic Arts and High Polymer Research divisions of the Kodak Research Laboratory, Rochester, N. Y.

DAILY PANTAGRAPH TELETYPESETTER PRODUCTION RECORD

June 1950

Name	June Ave. Prod.[1]	Idle Time	Test Speed[2]	Speed Prod. Ratio[3]	Actual Errors per col.	Net Prod.[4]
Operator No. 1	395	11:01	580	68.1	5.2	364
Operator No. 2	343	10:08	510	67.2	4.2	324
Operator No. 3	346	4:24	470	82.3	4.7	333
Operator No. 4	342	13:45	500	68.4	6.0[5]	318

[1]June average production column—Average hourly production, idle time not counted.

[2]This test shows a higher error count than exists in regular production.

[3]Speed production ratio—Speed test against total hours worked, including idle time.

[4]Net production—Net average per hour production including idle time. Allentown (Pa.) Newspapers' production record pattern used here.

[5]No. 4 operator's error count higher than other operators because of part time work.

Teletypesetter at *Pantagraph*

By MARTHA LUISE MILLER*

**Bloomington (Ill.)* Daily Pantagraph.

THE Bloomington (Ill.) *Daily Pantagraph* installed three Teletypesetter perforators and two keyboard units early in November, 1948. Morning and evening editions of the *Pantagraph* are published. Two working shifts are employed. In April, 1949, another operating unit and perforator were purchased. Teletypesetter operators were trained in the plant. Typists were hired who could type a minimum of 60 words per min. with a maximum of four errors in 10 min.

Two day-operators spent one week each typing the perforator manual and instruction book. They were reasonably familiar with the equipment before they started to punch tape. Later they were given time copy. After the first three weeks training period each operator set about 150 lines an hour. It took approx. three weeks for the operator to really get the feel of the machine.

When the first two operators became familiar with the Teletypesetter perforators, a third person was employed. One of the first typists taught the third. It constituted a refresher course to the month-old veteran to teach the third candidate. The same training technique was used—typing from the instruction book. Within two weeks the new perforator operator was put on the night side and was started on time and feature copy.

A month later the second night operator was started. The same training procedure was followed.

At the beginning of Teletypesetter operation in the *Pantagraph* plant, all copy was handled by the copy cutter in the composing room. Copy for Teletypesetter operators was chosen by him and a clothes pin used to keep copy together for each take. When a perforator operator finished punching the tape, copy and tape (which was wound up on a reel) were pinched together with a clothes pin and carried to the Linotype keyboard operating unit. The copy was then sent to the news dump and the tape to the Linotypes.

The men who set heads and the dump men watch the Teletypesetter machine operating units and take the slugs from the machines. The machinist, of course, makes machine adjustments and repairs. The dump, head machine and Teletypesetter operated machines are in immediproximity.

The *Pantagraph* machinist, John Peiffer, made the Teletypesetter installation under the supervision of Frank Foster of Teletypesetter Corporation. The units were put on Model 8 Linotypes.

The *Pantagraph* uses 7½ pt. Excelsior on an 8 pt. slug. The unit font matrices recommended by Teletypesetter Corporation were not used because the non-unit font measures 123.0 for the lower case as against 128.0 for the unit count font and the original mats were in good condition. No tabular setting is done on teletypesetters at present.

MARTHA LUISE MILLER

Daughter-in-law of Russell B. Miller, Mechanical Supt., Bloomington (Ill.) *Daily Pantagraph.*

After four months, reperforators were installed directly at the Linotype units with transmitter distributors at the perforators. A wire transmission line is used to transmit the codes from the editorial room to the composing room. The time lag between punching tape and running it through the Linotype unit was eliminated thereby. A jack box is used so machines can be operated by any one of the three perforators.

Controlling Copy Flow

The editorial department now routes and controls copy flow. This system gives the editors a better idea of how much copy can be set in a specified time. The editors can see when operators are either out of copy or are overloaded. They also have operators set copy for pages to be made up early. They learned under the new system that it takes an even flow of copy to get production and that only a specified number of lines or columns can be set in a specified time.

The Teletypesetter equipment has made it possible for the *Pantagraph* to get

The Road Ahead

(Abstracted from address delivered by Hon. John J. Deviny, Public Printer of the United States, at the Annual Convention of the Intl. Assoc. of Printing House Craftsmen, Chicago, September 1950.)

DO NOT contribute to the unsettlement of the supplies market by panic buying. This great country can produce everything needed for essential purposes and I am confident that the best interest of all will be served by normal buying right up to the time when controls may have to be applied. Pursuing this line of thought—that of supplies—the time may not be so far off when we must begin to think of substitute materials and methods. This is worth advance consideration and if craftsmen will continue to put their minds to it, I know we shall find more than one acceptable solution to the problem. There are a number of substitutes for manpower, such as better equipment or methods which eliminate hand work, but be prepared to work with people who would not ordinarily be selected for the jobs they will hold. Share your knowledge so that it may bolster up the weaker units of your organization. You will have to muster skill and patience in your employee relations.

Teletypesetter Operation at Bloomington (Ill.) ***Pantagraph***

1.—The copy system used is simple but efficient and was installed between the editorial department and the perforator operators' section of the composing room. It is the responsibility of the editorial department to supervise copy flow to the composing room. The compartmented device shown in this illustration is divided into 36 pigeon-holes. Certain vertical rows of holes are used for morning and evening editions. The two vertical right-hand rows of pigeon-holes are used for the ***Evening Pantagraph*** copy. One row is labeled "Home Should" and the other "Home Optional." The compartments in the two vertical columns are divided into receptacles for national and local news, society, sports, editorial column, financial and feature and time copy, etc. Perforator operators are given instructions to take copy most urgently required as it becomes available. Editorial department can see when operators either are out of copy or are overloaded.

2.—This illustration shows the three perforators with operators at work. Notice the transmitter distributor to the left of each operator. The perforated tape is fed directly from the perforator into the transmitter distributor to send electrical impulses over the wire to the reperforator unit alongside the Linotype keyboard in the composing room.

3.—Close-up view of the reperforator which translates the electrical impulses received over the wire from the transmitter distributor into perforated tape which is a duplicate of the tape produced at the perforator shown in Fig. 1. This tape can be run directly into the keyboard operating unit on the Linotype keyboard. This eliminates the necessity for anyone in the composing room replacing rolls of perforated tape on the spindle in the keyboard operating unit.

4.—The three Teletypesetter-equipped Linotypes in the ***Daily Pantagraph*** plant. A reperforator is provided for each machine. A control board (not shown) permits any reperforator (in this Fig. 4) to receive tape from any one of the three perforators shown in Fig. 1. The slugs are removed from the machine galley by the dump men or by the head machine operator. Distributor and tight line stops in the Linotype are attended to by the head men or the dump men. Machine adjustments are made by the machinist.

out a newspaper with typists at a time when it can neither hire enough Linotype operators nor train personnel to operate the line-casting machines.

The net production for June, including idle time, averaged 335 lines per hour per operator. Their speed, however, is much higher.

In regard to accuracy it was found that typists strike very few wrong keys but some of them are not good spellers. On the average they do not understand capitalization or word division. For this reason it is necessary for copy to be well typed, marked for style and every word spelled correctly.

Later, the *Pantagraph* expects to add another operator on the day and night sides. At that time box scores and classified will be set by Teletypesetter operation.

News columns have been increased by an average of about 10 columns a day since installation of Teletypesetters. Overtime has been reduced greatly and since the Teletypesetters have been installed, vacations which could not be given, due to the extreme shortage of operators, are now allowed.

Increase in Print Shop Fires Calls for Preventive Measures

By HENRY J. WINGATE*

**Architectural Engineer.*

WITH total fire losses greater by 5.4% for the first seven months of 1950 over the first seven months of 1949, the printing and allied industries are suffering an increasing high proportion of losses from fire. This calls for every print shop owner's putting into effect his own fire-prevention campaign in cooperation with local authorities in a vigorous all-out move to curb annual U. S. fire losses, which, for the year ending June 30, 1950, amounted to $685,846,000.

An analysis of 1053 fires in the printing industry made by the National Fire Protection Assoc. reveals these general causes: Common hazards, 52%; special hazards, 27%; unknown causes, 21%.

These special hazards are further broken down into the following types: Paper ignited by gas dryer or static neutralizer flame, 35%; type metal melting, 17%; friction sparks from processing units igniting paper shreds, 21%; ignition of gasoline, naphtha, alcohol and kerosene used in cleaning, 11%; ignition of benzol and other ink thinners, 9%; overheating silver nitrate solution, 3%; overheating glue pot, 2.5%; ignition of collodion deposits, 2.2%; ignition of varnish vapors, 2.5%; overheating wax, 1.8%; miscellaneous, 4%.

Self-Sufficiency

(Abstracted from an address delivered at the Annual Convention of the Intl. Assoc. of Printing House Craftsmen, Chicago, September 1950, by Lester S. Crowl, President, The Blade Printing and Paper Co., and Blaco Advertising Agency, Toledo, O.)

THERE is a great satisfaction that comes to everyone from a certain feeling of self-sufficiency. I don't know how any man who takes any pride in his daily achievement could be satisfied with working day after day, week after week and month after month at some relatively unimportant job on an assembly line where some product is being put together where his job takes a few minutes or seconds on that product and his task is simply to tighten bolt 378 or tighten screw No. 1922. It would seem to me that it would be the most terrible mental strain to be occupied with such a mechanical occupation, and almost meaningless task as an assembly line operation, but in the printing industry, each individual has a certain latitude of creative expression. Each one of us has the opportunity and the responsibility of exercising judgments in what we are doing from minute to minute and hour to hour, and day to day, and it seems to me, that in itself, is a great reward of craftsmanship.

Will Not Expand GPO Operation

AT THE Monday morning, September 11 convention business session, Hon. John J. Deviny, U.S. Public Printer, discussed the handling of the great volume of printing at the Government Printing Office in case of extreme national emergency. He said that no plant expansion has been planned. The huge printing plant is operating three shifts now. In case of war, said he, the printing which cannot be handled at the GPO will be passed along to printers, since it is planned to utilize the existing capacity of commercial firms.

Hazards which are common to all types of private and industrial structures contribute to printing industry fires in this ratio: Smoking and matches, 36%; spontaneous ignition, 19%; misuse of electricity, 16%; heating defects, 9%; exposure, 3%; incendiary, 1.5%; welding, 1.5%; lightning, 1.5%; explosion from heat and power sources, 1.5%; miscellaneous, 11%.

Shop foremen are aware of the ever-existent fire hazard in oily wiping rags that are readily flammable when not baled or the gas flame used for ink drying on presses. These and other possible incendiary elements require the strict vigilance of every employee.

Structural Fire-Safety

Besides being constantly alert to prevent the outbreak of fire from these causes, a shop-owner can take other precautions. Foremost is building construction. A new structure requires fire-stopped walls, non-combustible material wherever possible, sprinkler system, properly marked exits and other safeguards specified in modern building codes.

Most printing plants, however, must be satisfied with improving fire-safety in the existing buildings in which they work. Some of these structures may be old and extensive alterations unfeasible and too expensive. Even under these conditions, a practical program to eliminate or reduce fire hazards is still not only possible but urgently indicated.

Included in the program should be installation of a sprinkler system; proper location and inspection of approved fire extinguishers and training all personnel to use them properly; checking on electrical wires; covered receptacle for oily rags and waste paper; taking waste material outside for burning or other safe disposal at the end of the working day; some form of fire-alarm system which should be tested daily; and enforcement of the no-smoking rule.

The most critical period in fighting a fire is the first 5 min. If a conflagration can be checked or retarded in this brief span, extensive damage can be averted. For that reason, it is essential that drafts through open stairways and elevator shafts carry flames upward. NFPA emphasizes the importance of protecting these openings to prevent a fire in a basement or low floor from spreading to the upper stories.

Fire-Stops in Walls

This urgency is endorsed by the President's Conference on Fire Prevention, which reports: "Among the primary causes of loss of life and property from fire has been the ability of fire to spread through concealed spaces within partitions and walls, underneath or within floors and above ceilings. All concealed space should be effectively fire-stopped with suitable material."

A highly effective fire-barrier for these concealed spaces is thermal insulation such as mineral wool, which is a generic term covering non-combustible material made of rock, slag or glass. Presence of this substance is accepted by building code administrators as compliance with laws requiring fire-resistive construction.

National Bureau of Standards reports that a wood-lath wall filled with mineral wool will halt the passage of fire for at least 1 hr. If the plaster is backed by metal lath, the fire-resistance time rises to 1½ hrs., with studs and other structural members still able to carry their load.

Further indication of ability of this material to retard fires was shown by tests conducted at Columbia University by the New York City Bureau of Buildings which approved the use of mineral wool, "where fire retarding is required under provisions of the building code and the multiple dwelling law."

A dramatic example of how mineral wool insulation reduced damage to a printing shop by checking the spread of fire occurred at the Journalism Laboratory Press of Washington and Lee University, Lexington, Va.

On March 11, 1950, fire which had been smouldering for some time broke out in the attic of the print shop. The cause was later attributed to defective electric wiring in the section above the

Compensation for Creation

(Abstracted from an address delivered at the Annual Convention of the Intl. Assoc. of Printing House Craftsmen, Chicago, September 1950, by Lester S. Crowl, President, The Blade Printing and Paper Co., and Blaco Advertising Agency, Toledo, O.)

EVERYONE in the printing business realizes that something of value must be created before there can be any compensation for it. It doesn't seem to me that anyone on an assembly line can feel that he is having much of a part in actually creating something of value. The small contribution which he makes by tightening up a certain nut and screw is so insignificant to the complexity of the whole product, that there can't be much of a satisfaction or feeling that they are actually making something of value for which they are entitled to a certain amount of compensation.

smelting furnace. Firemen arrived 10 min. later and after a stubborn hour of fighting brought the blaze under control. The presses and other equipment sustained damage of about $5000 when a large section of roof and ceiling fell on them, while paper stock and other material was damaged to the extent of about $3 thousand, mostly by water and scorching. The fire was held in check and the building saved from burning down by the presence of mineral wool insulation in the attic. This material retarded the fire until it could be extinguished in the attic, thus saving most of the valuable equipment on the first floor.

Attic Fire Inaccessible

In recounting the experience, C. Harold Lauck, Superintendent, declared: "The attic was unused and although there was a trap-door, entrance was difficult. Firemen could only get water to it through the lighting fixtures at each end and it was difficult to reach them to knock them out because of the sloping hillside at the ends of the building, (back side is two stories high). So, if it had not been for the non-combustible insulation the fire would have burned through the ceiling in a very short time and dropped firebrands in the highly flammable paper and oil soaked equipment on the printing shop floor.

"It was at least 20 min. before they were able to get water directly to the fire, (the roof was steel shingled). There was grave danger that if the fire had gotten a start in the shop itself, the dining hall alongside would have caught and that really would have made a conflagration."

Preventing spread of fire horizontally also is important. This can be done conveniently by placing a fire-door or non-combustible wall between active working sections and more or less dormant areas such as the paper stockroom.

A solid flush-type metal door at the head of the basement stairs is advised to prevent flames spreading up from the basement area. Many fires originate in the basement. That is because the heating plant is usually located there, together with electric fuse box, gas meters and water heaters as well as paints, inks and odds and ends which might better belong in the hell box. Architects and fire-prevention authorities recommend that the basement ceiling be covered entirely with a fire-resistant material such as cement or gypsum plaster on metal or rock lath.

26 Letters on 6 pt. Body

In the accompanying "illustration" is printed a 6 pt. square in which appear the 26 letters of the alphabet in cap form. Mergenthaler Linotype Co. distributed

■

these standard matrices at the recent National Graphic Arts Exposition held in Chicago's International Amphitheatre. MLCo suggests that slugs cast from the matrix can be cast and given to customers as souvenirs.

NSC Training Booklets

Six training booklets for foremen and supervisors, entitled *Psychology of Safety in Supervision*, have been issued by the National Safety Council. Titles of the booklets are as follows: *You Can't Change Human Nature*; *What Is Your U Q?*; *Teaching Safety on the Job*; *People Act Alike*; *Safety Makes Teamwork*, and *You Are Human Too*. The set of six are available to NSC members for 90 cents per set and to non-members at double the price. Orders may be sent to NSC, 425 N. Michigan Ave., Chicago 11, Ill.

Human Engineering

A systematic treatise on the science of designing mechanical equipment on the basis of detailed studies of human capabilities is available from the Office of Technical Services, U. S. Dept. of Commerce. Intended primarily as a reservoir of factual information for the design engineer, the handbook will nevertheless be of interest to production experts in all fields. *Handbook of Human Engineering Data for Design Engineers* sells for 5 dollars per copy. Orders should be addressed to Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C., accompanied by check or money order payable to the Treasurer of the United States.

Advertising Specimen Folder

Specimens of work produced for Graphic Arts firms are reproduced on sample sheets and contained in a colorful pocketed folder by Myron Jonas Co., a firm specializing in Graphic Arts advertising. Included are a selection of catalogs, folders, brochures, direct mail pieces, stationery, advertisements and publicity stories designed for the agency's various clients.

Excellent Brochure

The Southern School of Printing, of which Harry F. Ambrose, jr., is superintendent, has published a 5½ in. by 8½ in. 8 p. French fold brochure. The brochure's message is conveyed with ample cartoon type illustrations and a minimum of type matter. Black, gray and maroon colors are used tastefully. What the school has to offer in training for production departments in printing and publishing plants is explained. A graphic presentation of the cost of training apprentices in the school as against plant training should interest all young people thinking about such a course, as well as the employer who may wish to have prospective candidates for school entrance. A well planned and persuasive presentation. The Southern School of Printing is located at 1514 South St., Nashville 2, Tenn.

E. B. Co. Appoints Kemp

The William M. Kemp Co. of San Francisco has been named to act as West Coast distributor for the Printing Machinery Div., Electric Boat Co., in the sale of the E. B. Co. 22 in. by 34 in. Single Color Offset Press.

Students Visit Exposition

The Cincinnati Club of Printing House Craftsmen sponsored an all-expense paid trip to the Graphic Arts Exposition for four seniors from that city's Graphic Arts High School. Details of the educational trip handled by the school's Educational Committee of which Wilbert Rosenthal is chairman. Instructors Elmer Burkhardt and E. Frank Glatthaar accompanied the students on the trip.

Maintenance Conference

An 18 point program of plant maintenance techniques is scheduled to be held concurrently with the Plant Maintenance Show at the Public Auditorium in Cleveland on January 15-18 inclusive. Sessions will be held on preventive maintenance, organization and management for maintenance, lubrication and plant housekeeping. Electrical equipment, power, heating, lighting, and small plant maintenance are also scheduled to be studied.

Morrill is Host

The Ft. Worth Club of Printing House Craftsmen, Ft. Worth Local No. 47 of Intl. Printing Pressmen and Assistants Union, a number of southern newspaper publishers and Ft. Worth business men, were guests of the Geo. H. Morrill Co., Div. of Sun Chemical Corp., at the formal opening of the new ink plant in Ft. Worth, Tex. According to Ralph C. Persons, Morrill's General Manager, the installation represents an investment of $250 thousand in equipment and an equal amount for the building.

The ABC of OFFSET

For Letterpress Printers

By George Jos. Lenzer

IX—THE CAMERA BACK

NOW that the gallery set-up of the process camera has been reviewed in preceding installments, let's take a gander at the business end of this equipment. To do this, we must enter the Darkroom.

Careful, now. This outer door leads us into a small vestibule or place called the Light Baffle Chamber. Since the darkroom is an integral part of the light-tight box of the camera, we must be certain that all outside light is kept *outside*. Be sure the outer door is closed tightly before we open the door to the darkroom proper. All in? OK, let us proceed; but first we close the inner door. Dark in here, isn't it? That is as it should be. The routine for entering the darkroom should be remembered, and remember to reverse the routine when leaving. Caution —If an operator is inside the darkroom, or if the outside door is closed, always knock or in other ways ascertain that the road is clear, before entering the darkroom. This precaution will prevent any undue danger of spoiling work being exposed or processed.

Having previously made certain that all light-sensitive material has been safely stored and protected, we will turn on the ceiling light, so that at closer range we can look at the plate-holding assembly which we will now refer to as Camera Back (Fig. 20).

It will be remembered that the Camera Back is the unit in which is enclosed the focal plane of the camera assembly (Fig. 10, June 1950 issue), and that it is rigidly attached to the camera bed or chassis. Illustrated in Fig. 10 (June 1950 issue), process cameras of several designs are shown. Each camera has its own specific purpose and function, and consequently requires its own individual plate holding devices.

In general, the camera back of the process camera is so constructed as to have in relative positions, the various elements necessary to afford the efficient operation of the camera.

Camera backs in standard assemblies are stationary, and are connected to the darkroom wall by means of a flexible light-tight material. All focusing is accomplished by moving either the lensboard, the copyboard or both.

This camera back (Fig. 20a) is equipped with a single bar type, plate holding device, for holding the focusing groundglass and the light-sensitive photographic plate or film. Vertical adjustment of the bars makes possible the accommodation of different sizes of photographic plates from a 5 in. by 7 in. to a plate approaching the maximum size adaptable to the camera. Side to side movement and horizontal positioning of the photographic material is also possible.

The groundglass is used only for visually checking the correct focus, and the dimensional proportion of an image. The groundglass is removable, and is replaceable with the light sensitive material preparatory to exposure. If photo film is the sensitive material to be employed, then an adapter must be utilized. Such an adapter may be a panel of Bakelite, Masonite or other material which is coated with an adhesive substance commonly called Stayflat. A blackened photographic glass plate, is an ideal support and film holding adapter, because the blackened coating provides additional anti-halation backing. When properly coated with adhesive, the film is then positioned on the carrier, and by pressure is caused to adhere to the coating.

This assembly can then be positioned in the holding bars, replacing the focusing groundglass, preparatory to exposure.

The set-up so far is an adequate arrangement for the production of line and continuous tone photography. This can be said to be the simplest type of camera back.

Improved Camera Backs

Other models of cameras especially designed for simple work are equipped with two accurately positioned, hinged devices. One element holds the sensitive material and the other supports a permanently positioned groundglass.

In operation, the groundglass is swung out of the way after focusing is effected; and the other element, holding the sensitive material, is swung into its predetermined position preparatory to exposure. These elements may be hinged either to the top and bottom, or on either side of the camera back.

Vacuum Back

An improvement in the camera back is the incorporation of a vacuum back film holding device. Film positioned on the vacuum back seals the suction vents, thus creating a vacuum and permits the film to be held in position by atmospheric pressure.

This added feature may or may not require an additional hinged element, depending upon the ultimate utility of the equipment. The vacuum back, replaces the adhesive coated film holding adapter, and in use will assure more accurate positioning of the film to be exposed to the action of light.

Combination of the elements mentioned, *i.e.*, holding bars for supporting the removable halftone screen, hinged groundglass unit and the hinged vacuum frame, will convert this camera back into a process unit suitable for Line, Continuous tone and Halftone reproduction.

To become better acquainted with camera back assemblies specifically designed for greater efficiency in general process reproduction, let us step over to the adjoining darkroom.

It is assumed that the overall dimensions of the camera on the basis of image size, coverage, and range of enlargement and reduction, has been determined, and that the gallery floor space of your plant is established.

We will direct our attention to the selection of the devices obtainable and which are designed to hold light-sensitive materials, process screens, focusing groundglass, and other complements essential to efficiently processed reproduction.

In a camera we must take into account the kind or type of work to be produced, the degree of accuracy, capacity, speed of production, etc. By briefly reviewing the varying natures, characters, textures and kinds of copy submitted for reproduction, it is obvious that the same versatility applies to the camera back as is essential to the copyboard. There are dif-

Fig. 20.—Camera Backs Illustrated

20a—Simple style camera back (plate and screen bars are adjustable and movable).

20b—Improved camera back. (Hinged ground glass and stayflat panel with movable screen holding bars. Ground glass, replaceable with light-sensitive glass photo plate and film holding devices).

20c—All-purpose camera back. (Adjustable screen holding bars, hinged ground glass, movable and hinged bar type plate holder, and hinged vacuum board).

20d—The hinged left-hand frame in this figure is constructed to permit replacing the ground glass with a photographic glass plate. The right-hand swinging frame supports a vacuum back. The disappearing halftone screen may be raised and lowered and is shown in the upper part of this figure.

20e—Large model, all-purpose camera back. (Adjustable and removable plate holding bars, hinged ground glass, hinged vacuum back and disappearing halftone screens of different rulings).

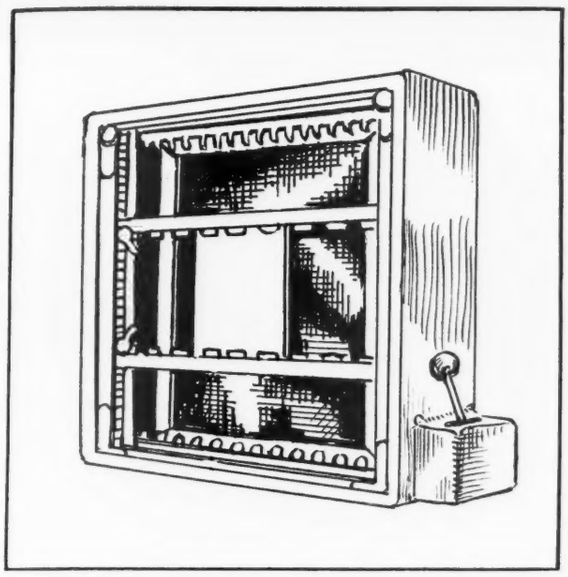


Fig. 20a.

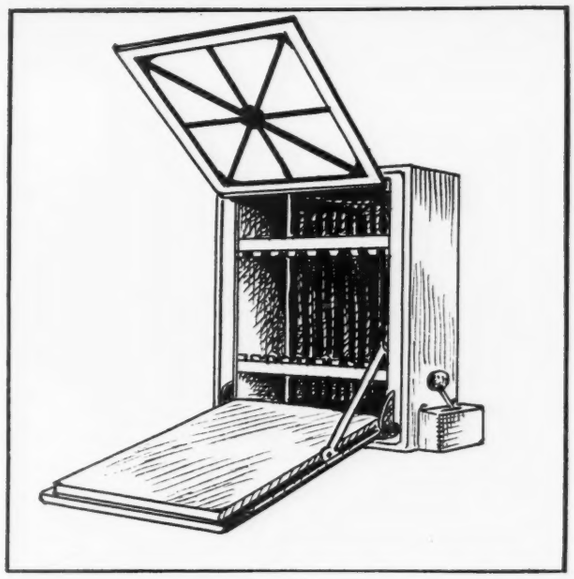


Fig. 20b.

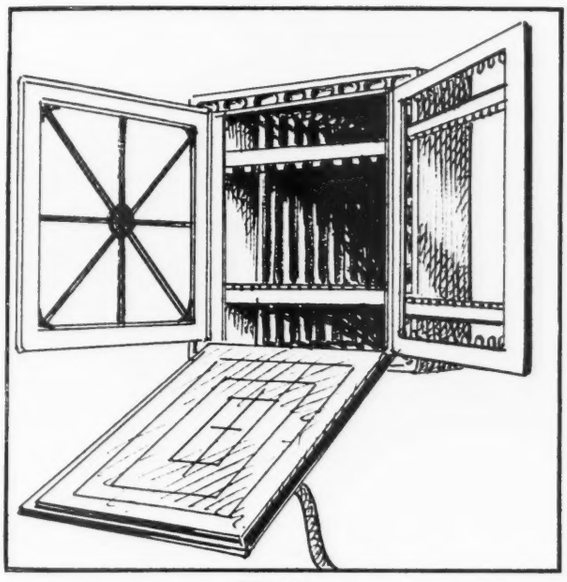


Fig. 20c.

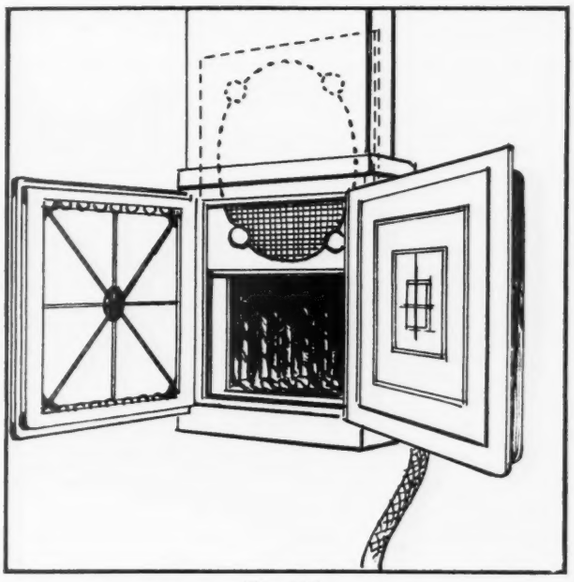


Fig. 20d.

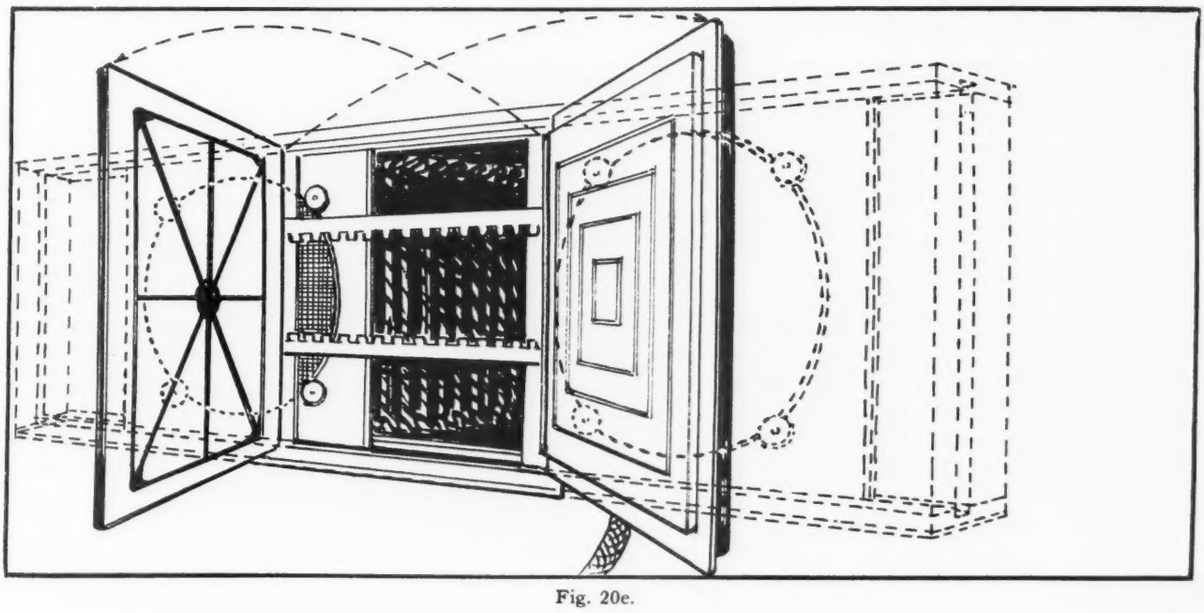


Fig. 20e.

ferences in thicknesses of sensitive materials and supports, as well as in the nature of the sensitizers which may be either wet, damp, dry, some affected by atmospheric changes, while others may be uncommon in general camera photographic usage.

Because of the many different techniques, requirements and variables throughout the industry, it is doubtful, that all applications of photographic reproduction will be satisfied by any one camera assembly. Consequently, we must confine our attention to consideration of those devices which will contribute most to the utility of the camera back and its complements on the basis of general acceptance and the work to be produced.

At first glance, this camera back does not appear to be any different from the assembly we looked at first (Fig. 20a). This camera back is equipped with very much the same kind of holding devices and other gadgets, but, there is a difference in the construction and surroundings of the unit.

Instead of a single bar type holding device, this unit (Fig. 20b) is equipped with a twin or double bar type, holding assembly. These are actually two separate holding devices. The innermost unit is designed to hold a removable cross ruled halftone screen. Its purpose is to hold the screen in a predetermined position, between the lens, and the light-sensitive material which is held by the bar type assembly nearest to the darkroom proper.

The bar type holding device nearest to us is a movable assembly. When the focusing groundglass is inserted in the holding device, the entire assembly can be moved forward or backward, thus permitting screen distance adjustments.

A large percentage of the camera investment is in the form of one or more halftone screens. Reference to this element now is believed to be important because from here on in this discussion the halftone screen will be considered as an integral part of the camera back.

In Fig. 20 are illustrated some of the camera backs common to cameras considered to be standard. Each is designed to meet specific needs and contains improvements necessary to increased production. They also conform to varying degrees of precision requirements.

Movable Camera Backs

Referring to Fig. 10b and 10c, June 1950 issue, it will be seen that the two cameras are equipped with camera backs which are movable and adjustable, and are not attached to the darkroom wall. As previously mentioned, cameras featuring this type of back have advantages over the standard assemblies. For example, greater access to either side, front or rear of the housing, a feature providing greater ease in masking, dodging and other techniques advantageous to the job at hand.

Focusing, may require adjustment of the copyboard and camera back only, or the movement of all three planes—lens, copyboard and camera back—and may be accomplished by scale, visually or by a combination of both.

Another reason for installing a camera arrangement of this kind is the adaptability of large sized equipment in a space of limited area, and where space is a vital factor to the economy of the plant.

On some of these, additional improvements for photocomposing registration, motor driven and manual focusing of all elements, re-registration mechanism and other features, operable and controllable from within the darkroom, are available.

Auxiliary Vacuum Back

Where the camera is utilized for producing reproductions of great enlargement such as is common practice in some establishments, another element is provided in the form of an auxiliary vacuum back.

The darkroom is of greater depth than those of general purpose, permitting installation of special floor track upon which the auxiliary vacuum back moves. This element is constructed so that a vacuum pump travels with the movable unit, and is of such size as will conveniently accommodate the largest sized roll film necessary for the projection.

A camera back of this kind is not meant to be used for copying in the accepted meaning, but rather for the production of blow-ups or enlargements of halftone positive or negative transparencies, when these are the copy.

Wherever equipment of this nature is employed as standard equipment, all other darkroom equipment must be duplicated on a larger scale; *i.e.*, tanks instead of trays, clamps replacing clothes pins, carboys instead of bottles, gallons or pounds instead of ounces, etc.

The handling of large films requires the services of two operators instead of one.

Visual focusing is the only kind possible with this type of equipment. It is accomplished by first attaching a sheet of white paper to the vacuum board and then making the necessary adjustments of the different elements until upon inspection with a magnifier the dot formation is of proper size, shape and density, and the image is in correct proportion.

The paper is then replaced by the light-sensitive material preparatory to making the exposure. Enlargements may also be made of line subject material, when negative or positive transparencies are the copy.

(To Be Continued)

Day-Glo Ink Effects Gotten By Bronzing

EVER since introduction of Day-Glo inks for use in the silk screen industry, the promise has been held out by Switzer Brothers (the originators) that they were working on the adaptation of Day-Glo fluorescent for use in the printing industry. As formulated for the silk screen process, the inks are entirely unsuited to printing by letterpress or offset. As explained, some time ago, the sponsors could not formulate the fluorescing pigments in such manner as to permit printing press inking rollers to lay down the ink with sufficient concentration to produce the effect desired. In this respect, silk screen printers have had an edge over the standard printing processes by being able to furnish eye-attracting displays with penetrating colors which are not obtainable through regular printing processes.

It now has been announced that Switzer Brothers, Inc., in collaboration with Lawter Chemicals, Inc., of Chicago, has adapted the use of Day-Glo fluorescent color to offset printing. This has been done by employing a standard bronzing operation with Day-Glo Bronzing Powder.

The first printed piece to be produced with the Day-Glo Fluorescent Color is a 26 in. by 25 in. Birds Eye Poster for General Food Corp. in 100 thousand quantity. Six words were bronzed in Day-Glo Fire Orange on black background. The balance of the poster is printed by offset in four non-fluorescent colors. The job was printed in the I. S. Berlin Press plant, Chicago.

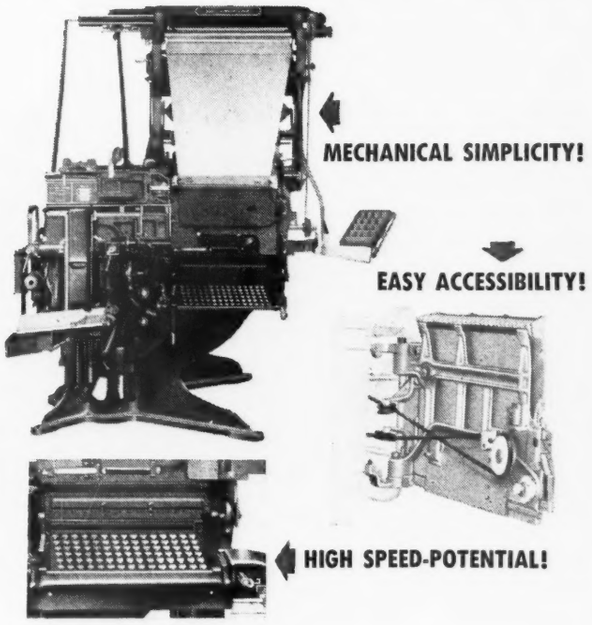
Technique employed in producing the poster is as follows: The non-fluorescent colors were first lithographed on a four-color offset press. Then the entire sheet was coated with a spirit type overprint varnish. A special printing size and the Day-Glo fluorescent powders were applied on a specially adapted lithographic press connected directly with a specially modified Christensen bronzing machine.

It is explained that there are essential differences between daylight fluorescent bronzing powders and the screen process materials which have been the only means of applying the daylight fluorescent colors. Any daylight fluorescent advertisement or other display, whether silk screened or bronzed, will retain its fluorescent brightness indefinitely if kept away from window light. On the other hand, while the screen materials may be employed for 30 day outdoor showings, even in summer, the bronzing powders will for the present be limited to use on displays not required to withstand over seven days' exposure to direct outdoor sunlight or 14 days' direct sunlight through window glass. It is predicted that if and when wet inks are offered for printing daylight fluorescent colors their fastness to light may well restrict their usefulness to indoor applications, with no exposure whatever to direct sunlight even through window glass.

Switzer Brothers, Inc., announces that printers are being licensed for the use of the bronzing powders and the printing size used in this application. Colors available initially in the powders are Neon Red and Fire Orange.

2 outstanding Linotype developments to help you increase production and reduce maintenance!

the BLUE STREAK COMET

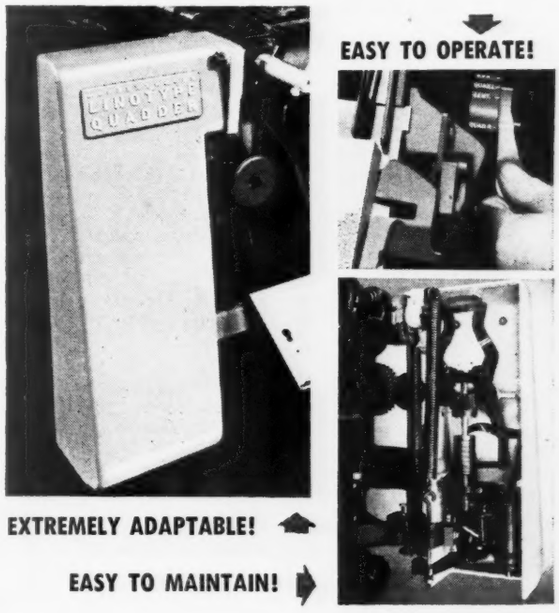


Here are a few of the many exclusive features of the new Blue Streak Comet that make it the ideal line machine for your composing room:

- simplified assembling, casting, distributing mechanisms with hundreds of parts eliminated!
- easy-to-operate controls for shifting magazines, adjusting vise jaws and making other settings!
- unmatched accessibility with a front and keyboard that swing out.
- extra high "speed-potential" enables the Comet to produce 12 lines of 12-pica text per minute when teamed with a Teletypesetter unit!

Let the Blue Streak Comet breeze through your "run-of-the-hook" composition!

the ML QUADDER



Adaptable to practically any line-composing machine now in use, the ML Quadder is amazingly simple and compact. It quads left, right and centers, and features:

- convenient location of control lever between galley and keyboard!
- non-interference with regular Linotype operation; easy access to all other parts of machine!
- complete accessibility for cleaning and lubrication—factory-set adjustments need no checking!
- extremely fast settings for casting lines of any length, in ems or points!
- parts are specially engineered to compensate for wear!

Let the ML Quadder cut your composing-room costs!

There are many details and refinements to these exceptional Linotype developments that you will want to go over with your Linotype representative. Let him help you analyze the savings possible in terms of your own composing-room problems. Mergenthaler Linotype Company, 29 Ryerson Street, Brooklyn 5, New York.

• LINOTYPE •

LEADERSHIP THROUGH RESEARCH

Linotype Caledonia and members of the Spartan family

Conference Dates *(with organization names and principal officers)*

American Photoengravers Association — 1951 Convention, Netherland Plaza Hotel, Cincinnati, O., October. W. K. James, President; Frank J. Schreiber, Executive Secretary, 166 W. Van Buren St., Chicago 4, Ill.

ANPA Mechanical Conference—1951 Conference, Edgewater Beach Hotel, Chicago, June 11, 12 and 13. Chairman of the Committee, Edwin H. Evers, Production Manager, St. Louis *Globe-Democrat*. Manager ANPA Mechanical Dept., Vernon R. Spitaleri, 370 Lexington Ave., New York 17, N. Y.

Fifth District Craftsmen's Conference — Secretary-Treasurer, John Fisher, Superintendent, Reardon-Parshall Co., 466 Larned St., N.W., Detroit, Mich.

Great Lakes Newspaper Mechanical Conference—1951 Conference, Hotel Oliver, South Bend, Ind., January 7, 8 and 9. President, LeRoy Coates, Pressroom Supt., Grand Rapids (Mich.) *Press;* Secretary, Al. P. Oberg, Flint (Mich.) *Journal;* Chairman, Mfrs. and Suppliers Committee, Clay Wellman, Ludlow Typograph Co., 2032 Clybourn Ave., Chicago 14, Ill; Local Arrangements Chairman, Royal H. Rager, South Bend (Ind.) *Tribune*.

Illinois Newspaper Mechanical Conference—1951 Conference, LaSalle, Ill., date and hotel to be announced later. President, John Barron, La Salle (Ill.) *News-Tribune;* Secretary-Treasurer, William L. Augspurger, Peoria (Ill.) Newspapers, Inc.

Intl. Assoc. Electrotypers & Stereotypers — A. P. Schloegel, Executive Secretary, 701 Leader Bldg., Cleveland 14, Ohio.

International Association of Printing House Craftsmen—1951 Convention, Statler Hotel, Boston, Mass., August 19, 20, 21 and 22. President, Fred C. Baillie, 21 Iona, Ottawa, Can.; Executive Secretary, Pearl E. Oldt, 18 E. Fourth St., Cincinnati 2, Ohio.

International Graphic Arts Education Association—1951 Conference, Cleveland, O., June. President, George J. Bilsey, East High School, Cleveland, O.; Educational Director, Fred J. Hartman, 719 Fifteenth St., N. W., Washington 5, D. C.

International Typographic Composition Association—1951 Convention, Hotel Windsor, Montreal, Can., September 13, 14 and 15. President, O. B. Powell, Chicago; Frank M. Sherman, Executive Director, 1015 Chestnut St., Philadelphia 7, Pa.

Iowa Daily Newspaper Mechanical Conference — 1951 Conference, Hotel Montrose, Cedar Rapids, Iowa, May 5, 6 and 7. President, L. T. Caldwell, Stereo Supt., Cedar Rapids (Ia.) *Gazette;* Secretary-Treasurer, Paul F. Kamler, Mechanical Supt., Clinton, (Ia.) *Herald*.

Kansas Newspaper Mechanical Conference — 1951 Conference, Broadview Hotel, Wichita, Kan., September 15 and 16. President, Glenn Cummins, Wichita (Kan.) *Eagle;* Secretary-Treasurer, Larry Miller, 701 Jackson St., Topeka, Kan.

Lithographers National Association—Executive Director, W. Floyd Maxwell, 420 Lexington Ave., New York 17, N. Y.

Missouri Newspaper Mechanical Conference—Secretary-Treasurer, O. K. Hammitt, Mechanical Supt., Moberly (Mo.) *Monitor-Index*.

National Association of Litho Clubs — 1951 Convention, Hotel Cleveland, Cleveland, O., May 11 and 12. General Convention Chairman, Herb Johnson, A. S. Gilman, Inc., 623 St. Clair Ave., N. E., Cleveland, O. Executive Secretary, William J. O'Holleran, Assistant Supt., Myercord Co., 5339 W. Lake St., Chicago 44, Ill.

National Association of Photo-Lithographers — Executive Vice President, Walter E. Soderstrom, 317 West 45th St., New York 19, N. Y.

National Printing Equipment Association, Inc. — President, R. Verne Mitchell, Harris-Seybold Co., 4510 E. 71st St., Cleveland 5, O.; James E. Bennet, Secretary, 140 Nassau St., New York 7, N. Y.

New England Mechanical Conference — Secretary-Treasurer, Walter C. Crighton, Comp. Room Supt., New London (Conn.) *Day*.

Northwest Mechanical Conference — 1951 Conference, Radisson Hotel, Minneapolis, Minn., February 10, 11 and 12. President, Vernon G. Eck, Dunwoody Industrial Institute, Minneapolis, Minn.; Secretary-Treasurer, Ralph Carson, Dunwoody Industrial Institute, Minneapolis, Minn.

Pacific Mechanical Conference —1951 Conference tentatively set for Biltmore Hotel, Los Angeles, during May. President, L. M. Richardson, Mechanical Supt., Los Angeles *Herald-Express;* Secretary for the North, Edw. N. Conley, color press foreman, San Francisco *Chronicle;* Secretary for the South, Fred J. Moyer, Los Angeles *Daily News*.

Pacific Society of Printing House Craftsmen—Secy.-Treas., C. B. Park, 102 N. W. 9th Ave., Portland, Ore.

PNPA-NJPA Joint Mechanical Conference—1951 Conference, Abraham Lincoln Hotel, Reading, Pa., April 6 and 7. Conference director, Theodore A. Serrill, PNPA Manager, Telegraph Bldg., Harrisburg, Pa.

Printing Industry of America — 1951 Convention, Boston, October 24, 25, 26 and 27, hotel to be announced later. President, Robert H. Caffee, President, Wm. G. Johnston Co., Pittsburgh, Pa.; James R. Brackett, General Manager, 719 Fifteenth St., N. W., Washington, D. C.

Research and Engineering Council *of the Graphic Arts Industry, Inc.*—President, Frank F. Pfeiffer, Reynolds & Reynolds Co., 800 Germantown Ave., Dayton, O.; Official Headquarters, Bernard Taymans, 719 Fifteenth St., N. W., Washington 5, D. C.

SNPA (Eastern Div.) Mechanical Conference—Chairman, L. H. Pickens, Mechanical Supt., Greenville (S. C.) *News-Piedmont;* Secretary, Tom Tanner, c-o SNPA, P. O. Box 1569, Chattanooga 1, Tenn.

SNPA (Western Div.) Mechanical Conference—Secretary, C. W. Tabb, 621 Texas Bank Bldg., Dallas, Tex.; Chairman, Manufacturers' and Suppliers' Committee, William Sefton, c/o Howard Flint Ink Co., 1010 Lockwood Dr., Houston 20, Tex.

Technical Association of the Lithographic Industry —(TALI)—President, Michael H. Bruno, Lithographic Technical Foundation, Glessner House, 1800 So. Prairie Ave., Chicago 16, Ill. Secretary-Treasurer, Geo. W. Wilhelm, 814 N. East Ave., Oak Park, Ill.

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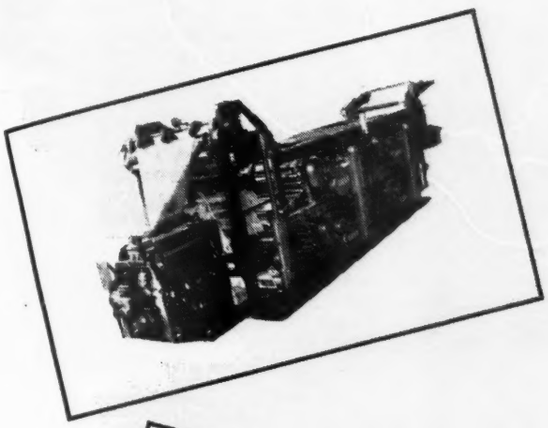

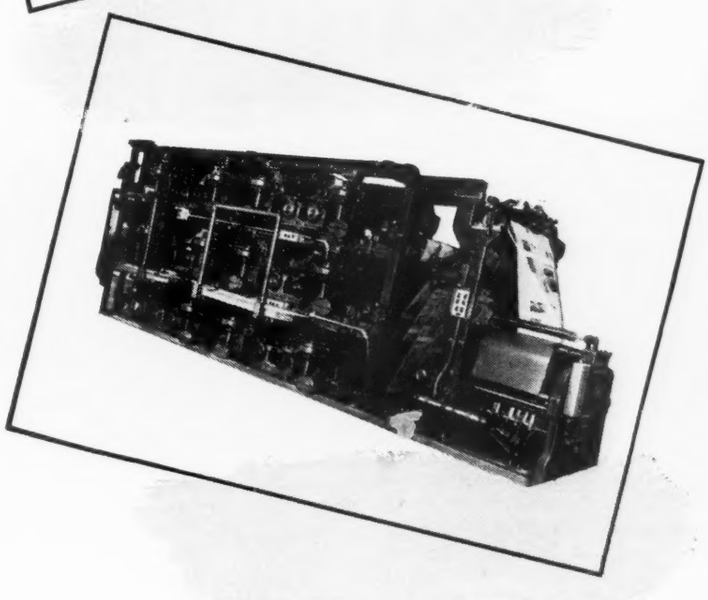

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Simplified Circuit for Electric Pots

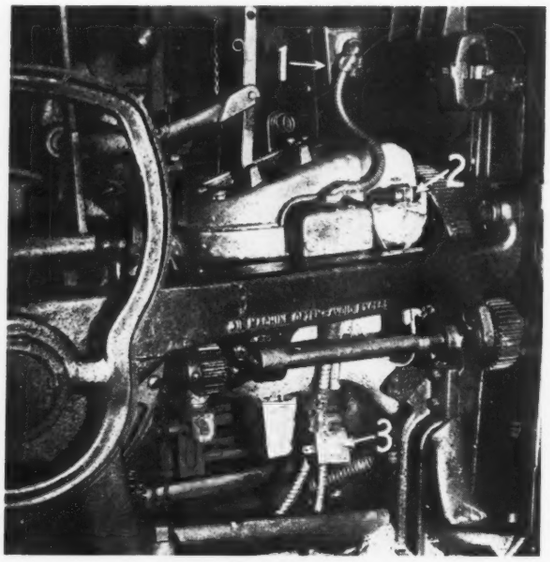

Fig. 1.—In this halftone illustration and the accompanying diagram (Fig. 2) is shown a simplified wiring and instrumentation arrangement for electric metal pot heating equipment of the earlier style as applied to Linotype machines. The arrangement was devised by Morris E. DeLater, Chief Composing Machinist at the Dayton (O.) *Daily News*. Harry A. Miller, Mechanical Supt., states 10 of the simplified pot circuits have been in operation at the *News* for better than a year and have given satisfactory results. Direct current, 220 v., is used at present. It is anticipated that in the near future a change to a.c. current will be made, in which event the hookup described here will be continued.

In this illustration, *1* is the G.-E. Thermostat fastened to a special bracket made by Mr. DeLater; this thermostat is of the make and break type, No. CR-2992, R1; with Bulb and Bellows 4980281 G 156; at *2* is shown the Neon Glow Lamp, No. NE-58, 250 v.; at *3* is the Radio Condenser, 400 v., d.c., for a.c. or d.c. operation. In a.c. operation, the condenser would not be needed, because the arc is broken by the alternating current, but on a check the condenser is optional, as there is a little less arc with it than without.

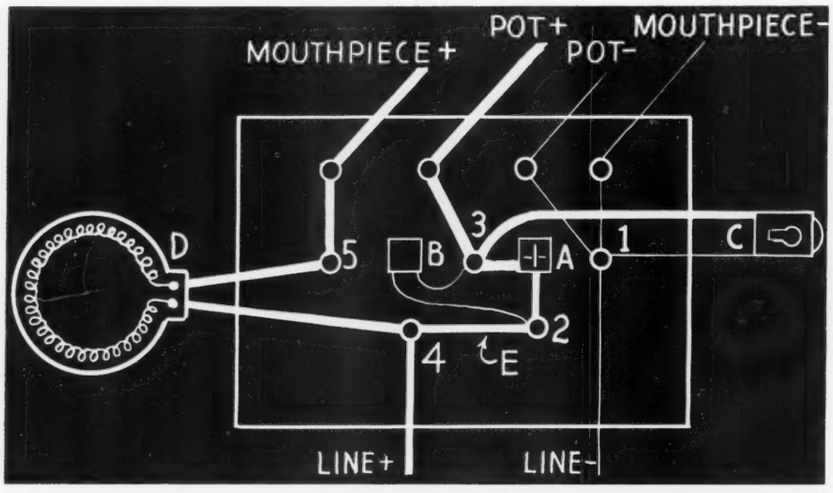

Fig. 2.—This diagram is representative of the terminal wiring block affixed to the left-hand side of Linotype metal pots equipped with old-style pot-mounted mechanical thermostat and panel box clapper switch operating on 220 v., d.c. (as shown in Fig. 1) The simplified arrangement for heat control on metal pots equipped with the old-style control eliminates the mechanical thermostat and clapper switch. Instead, the circuit is controlled directly off the line by another type thermostat and a condenser. Arrangement of the circuit is self-explanatory.

In the diagram, *A* is a G.-E. Thermostat (CR-2992, R1, make and break); (coiled tube leading from thermostat into pot cover is G.-E. bulb and bellows No. 4980281 G 156, temp. range 500 deg. to 750 deg.) *B* is a Radio Condenser, 400 v., Microfarad capacity d.c. for a.c. or d.c. operation; *C* is a Neon Glow Lamp, No. NE-58, 250 v.; *D* is the regular Linotype rheostat for mouthpiece and throat elements and which is retained in this hookup; *E* is a jumper extending from therminal *2* to terminal *4*.

The simplified circuit was devised by Morris DeLater, Chief Composing Machinist at the Dayton (O.) *Daily News*. Mr. DeLater states the revised arrangement maintains pot metal temperature within 10 deg. F. plus or minus.

Web Press at RIT

The ATF-Webendorfer Four-Color Web Offset Press installed in Rochester Institute of Technology's $250 thousand web offset laboratory was recently put through its first test run. Construction of the 42 T. press was completed in eight weeks. According to Dr. Mark Ellingson, President of the Institute, investigational work will be conducted in the laboratory to determine whether newspapers, using the web offset press, can economically turn out the magazine section of their Sunday publication.

E.B.Co. Distributor

A. E. Heinsohn Printing Machinery and Supplies, Denver, Colo., has been named to act as distributor of the 22 in. by 34 in. E.B.Co. Single Color Offset Press, according to an announcement by Harold Gegenheimer, Division Manager, Printing Machinery Div., Electric Boat Co. Heinsohn will represent E.B.Co. in Colorado, Wyoming, Montana, New Mexico, So. Dakota, western Kansas and Nebraska, and the El Paso and Panhandle Regions of Texas.

Electrolytic Tinning of Electrotype Shells

By M. S. KANTROWITZ

Director, Technical Research, GPO, Washington, D. C.

MUCH interest has been shown in the electrodeposition of tin on copper electrotype shells as a substitute for tinfoil, prior to casting. Stannous fluoborate solution was selected as a suitable tin plating bath which can be operated at room temperature.

The feasibility of replacing the application of tinfoil in backing up electrotype shells with a process of electrically applying tin from a tin-fluoborate solution for the sweating-on operation was investigated in the Government Printing Office with a view to performing the tinning operation more efficiently and at lower cost. After considerable experimentation, the following solution formulas and operating conditions were adopted:

SOLUTION FORMULAS

	Grams Per Liter	Ounces Per Gallon
Stannous Fluoborate ($Sn(BF_4)_2$	200	26.8
Tin	81	10.8
Free Fluoboric Acid (HBF_4)	50	6.7
Free Boric Acid (H_3BO_3)	25	3.3
Glue	6	.8
Beta Naphthol	1	.13

OPERATING CONDITIONS

pH	0.2
Specific Gravity	1.17
Temperature	70 deg.-100 deg. F.
Current Density	50 amps./sq. ft.
Voltage	1-3
No air agitation	
Depositing Time	3 min

The solution is regulated each week by the addition of fluoboric acid to maintain the correct acidity, and an addition agent of glue and beta naphthol to minimize or eliminate "treeing."

Suitable equipment for electrolytic tinning consists of a 125 gal. rubber-lined tank and a 1,000 amp. rectifier which will enable ten molds to be tinned simultaneously.

New Philadelphia Plant

McCutcheon Bros. & Quality, Inc., has moved its factory and offices to 2653 N. Reese St., Philadelphia. In this new location the McCutcheon firm will occupy a modern building with double the manufacturing capacity it had in its previous location.

Patents

For The GRAPHIC ARTS

Covering patents issued August 8, September 5, September 12, September 19 and September 26.

All new patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issued each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Binding, Cutting, Perforation

2,517,640. BOOKBINDING CASE made of a single sheet of relatively thin cardboard comprises covers having folded double edges. The edges are rounded by indentations located adjacent and parallel to the edges at one side of the covers. A cord or cylinder shaped folding edge is obtained, possessing great flexibility in the longitudinal direction. Books bound in a cover of this type are said to combine a beautiful appearance with solidity. Invented by Franciscus Pieter D'Huy, Overveen, Netherlands. Unassigned. Application October 23, 1946; in the Netherlands October 26, 1943. 3 claims.

2,521,486. ELECTRIC CLUTCH AND BRAKE MECHANISM. A driving element and driving gauging mechanism is provided for a cutting knife machine of the guillotine type. The driving element comprises a pulley rotatably mounted on suitable bearings around the drive shaft but not keyed to it, so that the pulley independently around the drive shaft. A clutch band is provided within a circular recess within the pulley. The clutch band is connected to drive shaft and is rotatable therewith. Toggle mechanism for expanding the clutch band can be extended by an electromagnet carried by a cam adjacent the clutch band. Movement of toggle causes clutch band to be driven into close frictional engagement with the pulley to connect pulley to drive shaft. Deenergization of magnet releases toggle and permits clutch band to collapse to disconnect pulley from drive shaft. Invented by Frederick W. Seybold, Westfield, N. J. Assigned to E. P. Lawson Company, Inc. New York, N. Y. Application July 22, 1947. 14 claims.

Composing Room Equipment

2,523,102. LINOTYPE MACHINE of the invention includes an assembler slide, a bar attached to the slide, depending elements arranged on the bar at intervals in accordance with the width of sections of printed matter to be composed, and a cam surface arranged to be engaged successively by the depending elements and associated with the indicating device for facilitating the adjustment of the sections to exact width. Invented by Herbert Ellis, Shanghai, China. Assigned to Linotype and Machinery Limited, London, England. Application August 18, 1943; in Great Britain August 20, 1942. 33 claims.

2,523,109. TYPOGRAPHICAL DISTRIBUTING MACHINE. Distributor mechanism is provided for a linotype machine whereby different matrices may be mixed in the same line, and after the slug casting operation, restored to their proper magazines. Matrix delivery means comprises an advancing member and a reciprocating transporter, the advancing member pushing the matrices from a distributor box into engagement with a pair of retractible receiving rails located at a relay station midway between the distributors. The transporter is operative in one or the other of two zones to carry matrices from relay station into transfer relation to the appropriate distributors. Invented by Frank C. Frolander, Elizabeth, N. J., and Richard R. Mead, Queens Village, N. Y. Assigned to Mergenthaler Linotype Company, Brooklyn, N. Y. Application March 8, 1945. 80 claims.

Feeding, Folding, Delivery

2,521,413. WEB TENSION CONTROL MEANS is provided for a machine using a tensioned running web of flexible material. Machine has tension-control means including a reciprocatory carriage movable in a straight guide and provided with a roll that engages a bight in the running web. The invention provides a rocker-lever pivotally mounted at one end and pivotally connected at the other end to the carriage. A rocker-bar pivotally supports the first-mentioned end of the rocker-lever. A power device includes two axially alined shafts parallel to the rocker-bar, a pivotal support for one of the shafts, a pivotal connection between the other end of shaft and rocker-lever at an intermediate point of the latter, and means mounted on the shafts to effect lengthwise movement of the other

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shaft, and thereby change the tension on the web. Invented by Joseph S. Scheurermann and Thomas N. Carter, Chicago, Ill. Assigned to Cameron Machine Co., Brooklyn, N. Y. Application November 16, 1944. 1 claim.

2,522,784. METHOD OF AND MEANS FOR PRINTING AND PUNCHING CONTINOUS WEBS. In printing continuous manifolding forms, prior difficulties have been overcome by leading the web to the first printing and pressure cylinder couple in an untensioned and unstretched condition. The feed of the web to and through the printing couple is controlled by the peripheral speed of the first printing couple and the advancement and feed of the web through the printing press where it may be processed by other printing couples and punching and perforating devices. Control is such that the web is presented to each, where registration is important or essential, in an unstretched condition. Invented by Frank N. Guilbert, Jersey City, N. J. Assigned to Autographic Register Co., Hoboken, N. J. Application July 20, 1944. 4 claims.

Miscellaneous

2,523,650. SCRAPER BOARD is capable of being engraved or carved for artistic purposes and may be used in printing or other reproducing processes. It comprises a backing sheet having on one surface thereof an engraveable layer of material at least 20 thousandths of an inch in thickness and obtained by applying to the backing a uniform layer of an aqueous dispersion of about 112 parts of china clay in colloidal form, 18 to 20 parts of gelatin and sufficient dispersing agent to maintain the clay in dispersion. The layer is consolidated by pressure. Invented by Stanley Douglas Dickson, London, England. Unassigned. Application July 6, 1945; in Great Britain July 10, 1944. 3 claims.

Plate Making

2,520,928. ART OF PRINTING. The invention provides for readily positioning and retaining perforating rules upon a foundation plate by means of rule clamps pivoted in eccentric plugs secured in orifices formed in the foundation plate. Each plug has an upwardly open eccentrically positioned hole, a threaded stem-receiving hole and an enlarged laterally open recess forming an extension of the threaded hole and a rule clamp provided with a stem revolvably mounted in first hole. The stem is removably retained in the plug and a set screw having a non-circular downwardly extending end and an upwardly open, non-circular hole in the threaded hole is received at its non-circular end by a locking cam. A cam retaining filled plate is secured within the laterally open recess. Invented by Norman D. Hall, Washington, D. C. Unassigned. Application October 30, 1945. 7 claims.

2,523,199. APPARATUS FOR PREPARATION OF ROTOGRAVURE CYLINDERS. Invention features an "air-knife" or "doctor bar" for use in removing etching acid from a plate or cylinder in connection with rotogravure or similar printing processes. The air knife has a narrow discharge nozzle discharging against the entire length of the plate. Axis of discharge of air is inclined against the direction of rotation of the cylinder. The air tends to strip the acid from the cylinder, blowing it back downwardly toward the acid trough. Invented by Robert A. Diehm, Riverside, Ill. Assigned, by mesne assignments, to Paper Patents Company, Neenah, Wis. Application May 5, 1947. 1 claim.

2,517,701. PLATE CURVING PROCESS. Curved printing plates are formed from thermoplastic resin by this process. Plate is trimmed to the desired size and heated to render it pliable. It is positioned within a curved frame on a convex cylindrical surface of the desired diameter. Plate and frame are covered with an impervious blanket. Suction is applied to plate and blanket to hold the plate firmly against the cylindrical plate. Then the plate is cooled while suction on it is maintained. Invented by Henry Oettinger, Jr., Forest Hills, New York. Assigned to Electrographic Corporation, New York, New York. Application May 3, 1947. 2 claims.

2,522,869. GAUGE AND CORE FOR STEREOTYPE MOLD BOXES includes type-high side bearers having inwardly projecting parts providing cores which overhang the bed of the box and/or an improved removable core for such a box together with novel means for supporting the removable core in a proper position inwardly of the mold box. The arrangement includes a long core for use in the mold box having a flat bed for supporting a matrix and a lid having a flat inner surface. The core has a rectangular bearer part engaging between the bed and lid, a flat top, and a slightly long inclined bottom surface arranged at a slight angle to the top of bearer and a flat inner surface of lid. One end of bearer is slightly taller than the opposite end,

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and bottom of bearer ends at the taller end in a transverse, sharp edge about which the core rocks. The long core part is secured to the taller end of bearer and extends longitudinally of bearer and engages between the bed and lid. The core has a flat top flush with the flat top of bearer, and bottom of core is transversely rounded and spaced above the transverse edge throughout its entire length for forming a clearance space between the bottom of core and bed. Thus when lid is closed, the core rocks upon the transverse edge of bearer and top surface of core swings into positive engagement with flat inner surface of the lid. Invented by Stephen I. Griglak, Manassas, Va. Unassigned. Application March 8, 1949. 1 claim.

2,523,018 and 2,523,019. METHOD OF CYLINDER ETCHING AND MACHINE THEREFOR. Intaglio or relief printing cylinders are etched by the method and apparatus of these two patents. They are improvements on patent 2,360,676. The principal object is the provision of a machine and method whereby the progress of the etching on the printing surface can be closely controlled so that a more uniformly etched surface, having very accurate tonal quality, will be produced. Instead of using doctor blades or rollers for controlling etching fluid, barriers of air pressure are used and a water spray checks the action of the etching fluid when surface of cylinder is not in contact with the fluid. Invented by Charles L. Henderson, Appleton, Wis. Assigned to Paper Patents Co., Neenah, Wis. Applications December 12, 1946 and August 6, 1947, respectively. 6 claims each.

2,523,735. COPY HOLDER FOR CAMERAS has a positive curtain assembly which makes it possible to use transparencies or assembled groups of transparencies over a wider range of sizes than has been possible with copy holders of types heretofore employed. The assembly includes a lower shade and an upper shade and a shade toward each side of the copy holder. The lower and upper shades are adjustable vertically to define the elevation and vertical dimension of the light opening presented through the copy holder. The side shades are vertically extensible and movable bodily toward and from each other to define the width of the light opening. Invented by Victor Sussin, Chicago, Ill. Assigned to American Type Founders Inc., Elizabeth, N. J. Application January 15, 1948. 3 claims.

Printing Inks

During the four weeks covered by this report, no patents have been issued for this heading.

Printing Presses and Equipment

2,517,868. TRIPPING MECHANISM FOR PRINTING MACHINES. This trip for rotary sheet-fed printing presses includes, in connection with cooperating printing cylinders to which sheets are successively fed along a feed path in which a detector device is located, an oscillative trip shaft operably connected with the cylinder tripping components. Trip arms are carried by the trip shaft and trip-operating links are pivoted to the trip arms. Mechanism, actuated by operating components of the printing machine and selectively operable to engage a link, rocks the trip shaft to either "on" or "off" position. Invented by Edwin W. Goodwin, New Rochelle, New York. Assigned to R. Hoe & Co., Inc., New York, New York. Application October 18, 1945. 17 claims.

2,521,237. THE PRESS FOR PRINTING ENVELOPES includes simple envelope grasping and releasing features and certain features whereby the envelope bearing roller will accommodate the printing of two envelopes during a single revolution thereof. This reduces speed of operation yet provides, in most cases, more efficient production speed. Invented by Charles H. Marvin, Sioux City, Iowa. Unassigned. Application September 26, 1946. 3 claims.

2,521,691. REGISTRATION CONTROL DEVICE. A device is provided for keeping a pre-printed web in registration with a main or cooperating web in spite of causes giving rise to misregistration. Such a situation arises, for example, when a pre-printed rotogravure is to be inserted with a newspaper web prior to association, folding, and cutting of the webs. In combination with mechanism for adjusting web tension speed, the invention provides means for changing the length and stress-strain characteristics of the web by changing its moisture content. The inserted web is run through a moisture spraying chamber including steam nozzles. The amount of steam is controlled by the mechanical tension speed adjusting means. Invented by Robert C. Corlett, Oak Park, Ill. Assigned to The Goss Printing Press Company, Chicago, Ill. Application November 21, 1946. 21 claims.

2,522,479. REGISTRATION CONTROL DEVICE. Registered insertion of a pre-

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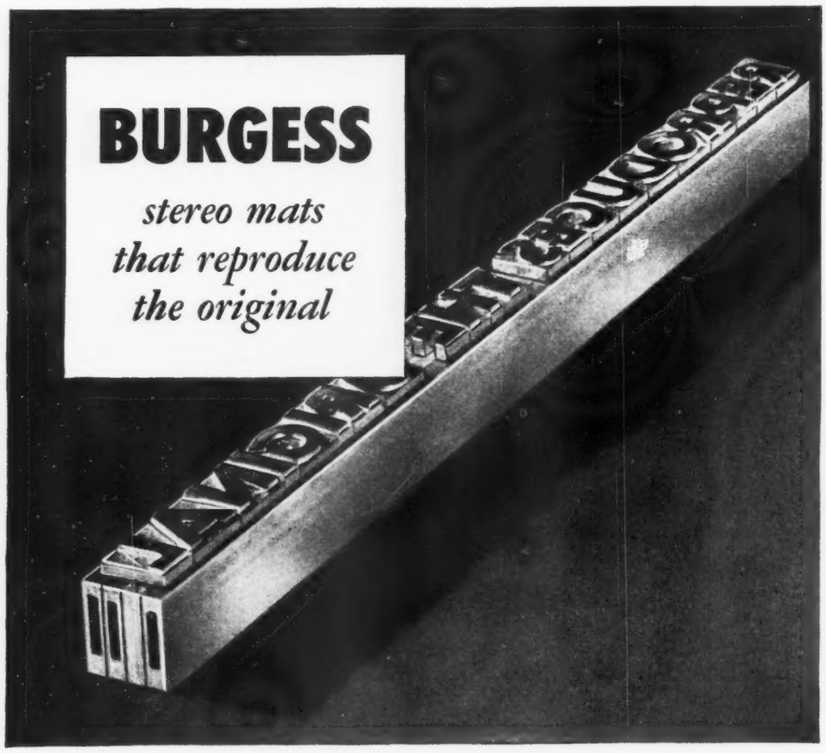
printed web is accomplished in accordance with this invention. This is shown as applied to a newspaper press of conventional construction. In newspaper practice it may be desirable to preprint a web of four-color work and reroll it for later insertion. The invention produces a control for the registration of such an inserted web and a main web in which registration data is obtained from the inserted web and from means rotating in unison with the main web completely through the use of photoelectric cells and without the necessity of using sliding electrical contacts. Invented by Curtis S. Crafts, Oak Park, Ill. Assigned to The Goss Printing Press Company, Chicago, Ill. Application September 27, 1946. 12 claims.

2,522,559. A DIFFERENTIAL VARIABLE SPEED DRIVE is provided for multi-size rotary printing presses. A variable speed device has an input-shaft geared to the web shaft of the press and an output shaft geared to the impression shaft. An adjusting shaft can vary the setting of the variable speed device. A differential has an input shaft geared through change gearing to the impression shaft and an input shaft geared to the web shaft. An output shaft of differential is geared to adjusting shaft of the variable speed device. As a result, change gearing can be changed upon a change in impression cylinder diameters corresponding to speed of the impression shaft. Invented by Rudolph P. Bechle, Yonkers, N. Y. Assigned to Potdevin Machine Co., Brooklyn, N. Y. Application January 10, 1947. 6 claims.

2,523,643. DOCTOR BLADE MECHANISM is disclosed for rotary intaglio printing machines, the carrier for which can be progressively adjusted bodily about the periphery of the printing cylinder so as to be movable towards and away from the impression zone to any desired setting. To be set for different cylinder diameters, the doctor blade can be adjusted bodily towards and away from the axis of the printing cylinder. When it is moved away from printing cylinder doctor blade is caused to sweep away from and clear of the web. For this purpose the doctor blade assembly is carried by a system of links and levers arranged to cause the assembly to take the desired path. Invented by William Edward Bennison, London, England. Assigned to R. Hoe & Co., Inc., New York, N. Y. Application December 5, 1945; in Great Britain December 19, 1944. 5 claims.

For Patent Research in the U. S. Patent Office, or a prompt estimate on any type of search, address INVENTION, INC., Munsey Bldg., Washington, D.C.



Take a slug as it comes from the casting machine. Stereotype it using a Burgess mat. Then compare the casting with the original slug. Every detail is there... clean, sharp and bright.

That's reproduction that rivals the original. It is the result of laboratory controls in the manufacture of Burgess mats... controls that guarantee uniform moisture content, greater plasticity, a smoother surface and uniform shrinkage. Why not put Burgess mats to work in your shop today?

BURGESS CELLULOSE COMPANY

Manufacturers and Distributors of Burgess Chrome and Tone-Tex Mats

FREEPORT, ILLINOIS

A Laboratory Product
BURGESS
Chrome
MATS

BOOKS

Printing Types And How To Use Them

UP-TO-DATE information on 126 type faces most commonly used in books, magazines and advertising is included in *Printing Types and How To Use Them* by Stanley C. Hlasta. This reference volume, comprised of 300 pages, will be useful to printers, publishers, advertisers, layout designers, printing and art students, public relations departments and the countless others who work with type.

In *Printing Types*, Hlasta has provided the answers to such questions as: What type face shall I use? What does the alphabet look like? What types combine best with my choice? What is the character count? Nor is the familiar question, "How can I learn to recognize the different type faces?", neglected. A short history of the origin and development of each face is given along with a detailed explanation of its distinguishing characteristics.

Two general sections of the book include book and magazine faces, and advertising and display faces. The book and magazine section devotes several pages to each type face involving complete alphabets of the face in caps, italic caps, small caps, lowercase, italic lowercase, and numerals. Character counts of the face in certain pica widths in the 10, 12 and 14 pt. sizes are listed. Distinguishing characteristics, use of the type, and what is available in the face, are also included.

A list of the items for which the face is generally used in advertising composition is presented in the advertising and display faces section of the book. Complete alphabets of the face in the 24 pt. size is printed opposite a brief description of the characteristics of the particular type. The proper selection of display lines

Engraved on Imperial Zinc

When you specify "Imperial," there's no guesswork about maintaining metal quality

★ Guesswork about the quality of metal in the pot can often prove to be costly extravagance. It isn't the cost of the metal that may have to be replaced ...it's the make-overs and lost production that can bring on red figures, red faces and gray hairs.

With Imperial you never need to guess and worry about the quality of your working metal supply. Instead you simply turn over responsibility for maintaining type metal quality to Imperial type metal specialists who are constantly at your service because they have no other interests to serve.

Personal counsel and continuing attention from Imperial representatives is a most important part of the Imperial "Better Metal–Better Printing" Program. Ask the Imperial representative to tell you all about the *complete* program, next time he calls.

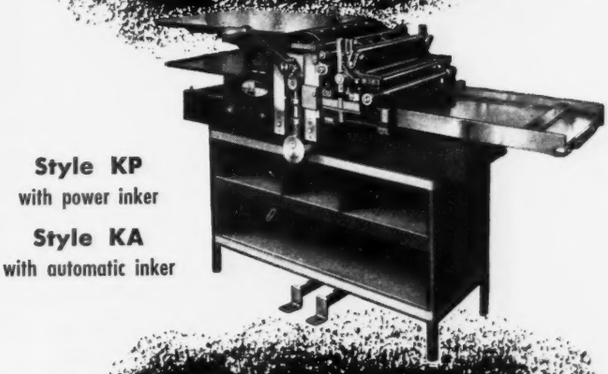
Imperial

TYPE METAL COMPANY

Serving the Graphic Arts Exclusively

PHILADELPHIA 34 · NEW YORK 7 · CHICAGO 50

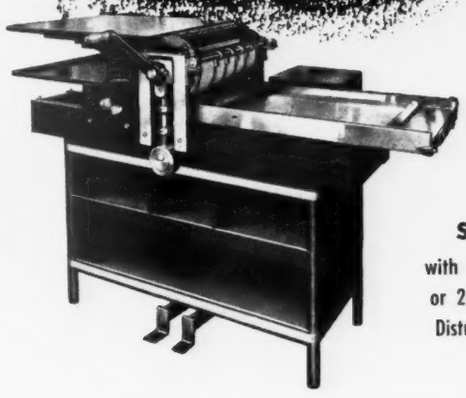
CYLINDER PRESS DESIGN MEANS BETTER PROOFS



Style KP
with power inker

Style KA
with automatic inker

Challenge® SERIES K PROOF PRESSES



Style K
with ink plate . . .
or 20" Power Ink
Distributor (extra)

660

The name "Challenge" is the trade mark of *Cylinder Press Design* in all three styles of Series K Proof Presses. Each has a revolving cylinder with reciprocating bed on anti-friction rollers to produce clean, sharp proofs. Sheets are fed to cylinder grippers and micrometer side guide. A foot trip prevents offset on the packing during the return stroke. Grippers may be opened at any position of the cylinder. Two sizes handle anything from an ordinary galley proof up to 14½ x 23" or 19½ x 23½". All models equipped with sliding feed board, delivery board and zinc galley plate. Get details today!

THE CHALLENGE MACHINERY CO.

Office, Factories and Show Room: Grand Haven, Mich.

Challenge TRADE MARK (R)

Over 50 Years in Service of the Graphic Arts

DEALERS IN ALL PRINCIPAL CITIES

which combine well with various kinds of body matter is also made available.

Printing Types And How To Use Them—by Stanley C. Hlasta. Book consists of 305 pages; specimens of 126 type faces; size, 10¼ in. by 7⅛ in.; grey linen cover with gold and maroon stamping. May be ordered through Rutgers University Press, New Brunswick, N. J. Price, $7.50 per copy.

Making Type Behave

DESIGNED to render a helpful service to those who prepare, write or mark-up copy for typesetting, is the 20 page booklet entitled *Making Type Behave*, written and compiled by Max M. Gordon and Frank B. Morganti. Subjects dealt with in the booklet include type, classifications of type, sizes and measures, display and body copy, spacing in all its aspects, type selection, copy preparation, copyfitting and character counting, marking copy, and proofreaders marks.

The 23 short chapters have been prepared in down-to-earth, understandable language for the professional as well as the student. The information has been compiled from various sources to give those in the production departments of advertising agencies, department stores, editors and copymen in book and magazine publishing houses, some helpful hints on copyfitting, preparation and marking up the copy for the compositor.

Orders may be sent to Max Gordon, Chairman ITCA Advertising Committee, c/o General Composition Co., 470 Atlantic Ave., Boston, Mass.

Management Strategy in Collective Bargaining Negotiations

IN the book entitled *Management Strategy in Collective Bargaining Negotiations*, a working reference is provided for employers and management negotiators on how to execute contracts that promote peaceful labor relations and at the same time permit efficient business operations. Published by the National Foremen's Institute, the book is divided into five sections that deal with labor negotiations. They are: Why unions act as they do; Union management relations and the law; Basic union aims and management bargaining strategy; Safeguarding management rights, and Conduct at the bargaining table. In addition, there is an appendix that gives the text of the new Labor Relations (Taft-Hartley) Act as well as an index on specimen contract clauses.

Management Strategy in Collective Bargaining Negotiations—By William J. Baade, jr., with the assistance of Morris Stone. May be ordered from National Foremen's Institute, Inc., New London, Conn. Price, 5 dollars per copy.

Why more and more publishers use TELETYPESETTER

In recent years, hundreds of publishers have turned to Teletypesetter to cut costs and improve shop efficiency. Some publishers have been using Teletypesetter successfully for more than 18 years.

They have found that Teletypesetter's greatest advantage is derived from the equipment's ability to operate composing machines practically without attention, turning out slugs of straight matter at a steady rate of 375 or more per hour.

They have been pleased by the simplicity of the Teletypesetter method of setting type automatically. An operator punches a tape on a perforator, using a keyboard similar to a standard typewriter's. The perforated tape is then fed into the Teletypesetter operating unit which is attached to the composing machine. This sturdy operating unit, which is completely mechanical, then operates the composing machine.

Why not discover how Teletypesetter can improve efficiency, increase production, and cut costs in your mechanical department? Write today to:

TELETYPESETTER CORPORATION
1400 Wrightwood Avenue, Chicago 14, Illinois

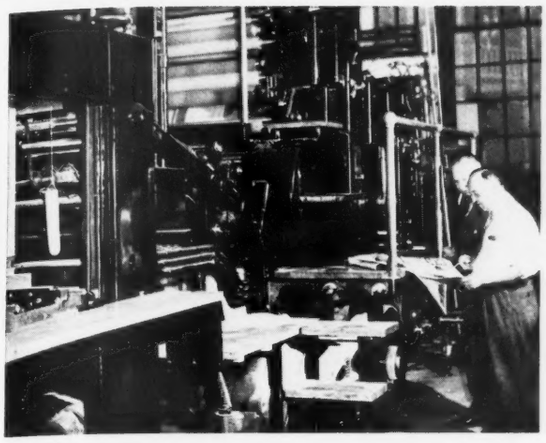
TELETYPESETTER®

EXECUTIVE Cs

Recent addition to Lanston Monotype Machine Co.'s staff if John C. Ouderkirk III. Will take a course in photomechanical equipment. Recently graduated from Rochester Institute of Technology.

Ray McDonough, Sales Representative of Ideal Roller & Mfg. Co., has recently been transferred to Cincinnati to assist Ken N. Cramer, Manager of Ideal's headquarters in Ohio.

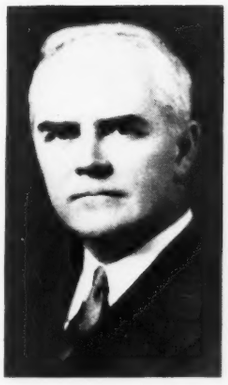
Personnel of *Printing Equipment Engineer* had the pleasure of again meeting Gosta E. Carlsson, Research Director of the Graphic Arts Research Laboratory, Stockholm, Sweden. Some time ago, Mr. Carlsson made an extended trip throughout the United States. He reported that 22 men and six ladies are now visiting the United States for one month. Aside



Manz Installs Harris Press—Recently installed in the plant of the Manz Corporation, Chicago, is the Harris two-color rotary letterpress pictured here. Shown beside the press from left to right are Manz Pressroom Superintendent George Greve and Pressroom Foreman William J. Zelasco.

from the visit to the National Graphic Arts Exposition in Chicago, the party of Swedish scientists and plant executives planned to visit printing plants and research organizations in New York, Washington (D. C.), Baltimore, Pittsburgh and Minneapolis.

Michael H. Turecky, recent addition to the staff of Lanston Monotype Machine Co., has been assigned to a course of special training at the factory in Philadelphia. He is a veteran of World War II.



Reuben B. Robertson, Chairman of the Board of Champion Paper and Fibre Co., declared "Man of the South" in a poll of editors, industrialists, bankers and other leaders of the South, conducted by the magazine *Dixie Business*. Robertson has been with Champion since 1907.

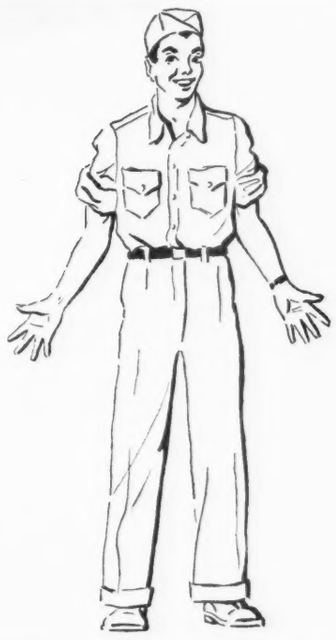
James H. Dickson, jr., has joined the Advertising and Sales Promotion Dept. of Mergenthaler Linotype Co. as copywriter. He was formerly with Kenyon and Eckhardt, Inc.

Joseph F. Costello, President of Lanston Monotype Machine Co., announces that at a meeting of the Board of Directors, S. W. Muldowny, George E. Tribble and Walter Reid Wolf were elected as Directors to succeed David S. Hendrick, Elizabeth G. Sterling and Dr. John Oliver LaGorce, who have resigned. The new members of the Board represent owners of substantial amounts of the Company's stock, part of which has recently changed hands.

Muldowny has been elected Chairman of the Board of Directors, and becomes the chief executive officer of the company.

Robert J. Casey has joined the J. M. Huber Corp. as Technical Sales Representative for coating and filler paper clays, according to R. H. Eagles, Vice President in Charge of the Industrial Products Div. Previously, Casey was assistant to the coating superintendent at American Coating Mills.

James R. Wright was recently named Secretary - Treasurer of McCutcheon Bros. & Quality, Inc. Wright, a nephew



NEWSPAPER PRODUCTION EQUIPMENT AND SUPPLIES

EVERYTHING you need . . . WHEN YOU NEED IT!

. . . AND at *consistent savings!* That's been the experience of EASTERN customers for years. If you have never tried EASTERN products in your plant, there's always a first time! Make it the next time. Place your order with EASTERN . . . *write for a complete catalog today.*

- PLATE-TAK . . . Super-Thin Cut Mounting Tape
- FLECTO GUMMED BACKING FELT . . . Individually packed 5 sheets per bundle
- TRU-MOLD CORK MOLDING BLANKET
- EASTERN CIRCULAR SAWS . . . ROUTER BELTS IN ALL SIZES . . . ROYLE ROUTING CUTTERS . . . CURVED AND FLAT CASTING BOARD . . . DIRECT PRESSURE MOLDING MATERIALS . . . COMPOSING ROOM AND STEREOTYPE EQUIPMENT . . . MATRIX SCORCHERS . . . MATRIX TRIMMING KNIVES

REPRESENTATIVES FOR:

STA-HI CORPORATION (Master Former, Premier Shaver, Power Form Lift, Vacuum Casting Box).
AMERICAN STEEL CHASE COMPANY (Newspaper Chases, Make-Up Trucks).
H. B. ROUSE COMPANY (Accessories and Equipment).
CHALLENGE MACHINERY COMPANY (Composing Room Equipment).

EASTERN FOR ECONOMY

EASTERN NEWSPAPER SUPPLY, INC.
9603 Northern Boulevard, Corona, L. I., New York

Robert A. Sperling recently joined the advertising and sales promotion department of Turner Printing Machinery, Inc. Sperling will work out of the firm's home office in Cleveland.

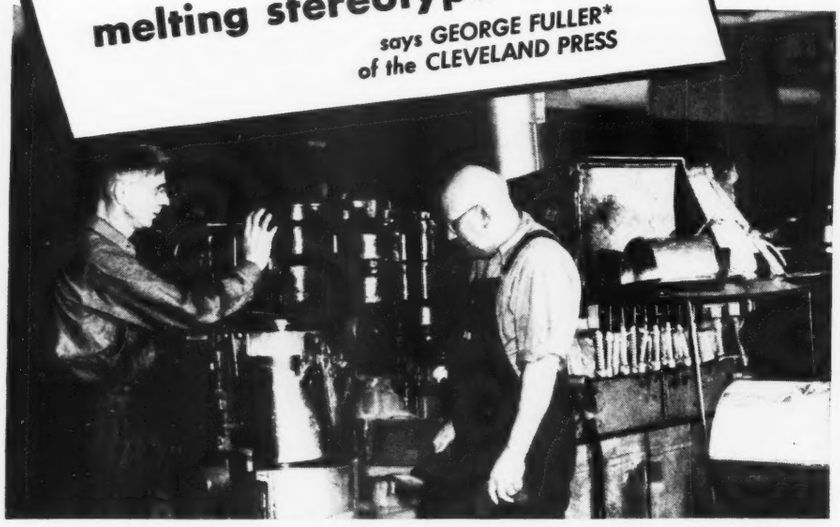
and namesake of the founders, joined the company early in 1950. He is a graduate of Lehigh University and was formerly associated with Stevens Wiley Mfg. Co. as sales manager in the chemical specialty field.

Robert P. Huberty, recent addition to the sales force of Lanston Monotype Machine Co. Huberty will be assigned to the New York office and cover that territory. He is a veteran of World War II.

Chummy Chat—Many printing executives in the United States met Dr. W. H. Banks, Research Supt. of Printing, Packaging and Allied Trades Research Assoc., Leatherhead, Surrey, Eng. Dr. Banks, in addition to attending the recent Graphic Arts Exposition, Chicago, participated in meetings of the Research and Engineering Council of the Graphic Arts held concurrently at the time of the Exposition. Among other places visited was the Goodyear Tire and Rubber Co.'s plants in Akron, O., where he studied techniques in producing rubber products for the printing trade. Dr. Banks is shown at left in this illustration discussing rubber stamping gum with E. R. Coate, Goodyear's Manager of Printers' Supplies.

"You can't beat G-E HEATERS for melting stereotype metal"

says GEORGE FULLER* of the CLEVELAND PRESS



G-E cast-in Calrod heaters in operation in the stereotype casting room of the *Cleveland Press.*

"For actual stereotype operation, you can't beat electric heat. Heat is always available in the intensity you need with the automatic controls that keep the heat range within five degrees of casting temperature. Maintenance problems are reduced to a routine monthly check. Since 1929, we have replaced only six heating units out of 40 installed on our furnaces."

CONVERT YOUR FURNACES OVER A WEEKEND

You can convert your stereotype furnaces to this fast, accurate, automatic method of melting stereotype metal over a weekend—with *no interruption* in production. G-E Calrod† heaters are *that easy* to install. Just contact the G-E Sales Office nearest you.

NEW FREE BULLETIN, GEA-5453, "Melting Stereotype Metal with Electric Heaters." Write to Sect. 720-27, *Apparatus Department, General Electric Company, Schenectady 5, N. Y.*

*Veteran of 42 years newspaper experience and advisor on stereotype operations in the Scripps-Howard syndicate.

†Reg. U.S. Pat. Off.

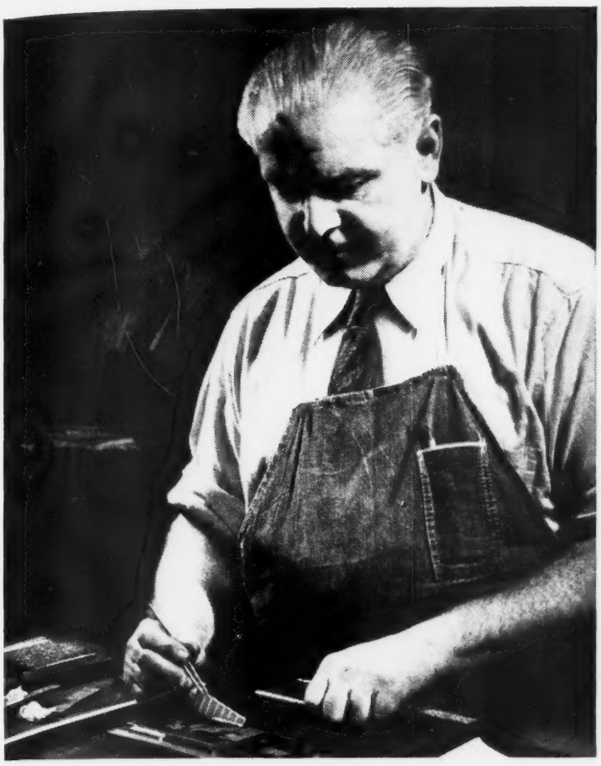
GENERAL ELECTRIC

720-27

A Harris offset press has been offered to the National Committee for a Free Europe, a business - supported group operating Radio Free Europe and other anti-Communist information agencies, accord-to an announcement by George S. Dively, President of Harris-Seybold Co. Dively stated that the power of the printed word has hardly been tapped in the fight against Communism.

William H. Pollock, appointed Manager of the newly organized Eastern Type Metal Dept. of Federated Metals Div., American Smelting and Refining Co., according to Edgar L. Newhouse, jr., Vice President. Pollock was previously associated with Imperial Type Metal Co. for 13 years. He is a graduate of Pennsylvania Military College and a veteran of World War II.

Charles M. Andrews, Vice President of E. P. Lawson Co., recently observed his twentieth anniversary with the company. W. J. Hourigan, Lawson's Treasurer, acted as toastmaster at a celebration



"To me as a make-up man, Blatchford's the buy because

. . . it makes clean, solid slugs that are easy to handle: to trim, line up, and lock up."

Every make-up man wants material that fits without fussing. And in type, slugs, and strip of Blatchford, he can be *sure* he gets it. Why?

First, because the lead, tin, and antimony are tops in quality. Unlimited metal resources plus close laboratory control account for that.

Second, because Blatchford formulations assure the characteristics and behavior you expect. Nothing is left to chance.

Third, because alloying and molding are under constant control. Every batch of Blatchford reflects know-how gained by nearly a century of metal-mixing experience.

That's why make-up men, operators, and pressmen tell you, "when it comes to metal, Blatchford's the buy." Try it.

* *

Keep your metal stock always up to par — use the famous ***Blatchford Metal Maintenance Service.*** Write for details.

NATIONAL LEAD COMPANY, *Atlanta, Baltimore, Chicago, Cincinnati, Cleveland, Pittsburgh, St. Louis; National Lead Co. of Mass., Boston; E. W. Blatchford Co., New York; Morris P. Kirk & Son, Inc., Los Angeles; American Lead Corp., Indianapolis.*

Blatchford . . .
the NATIONAL name for dependable metal

Makers of the famous Blatchford "Honeycomb" Base

PRINTING FRAMES

LAYOUT TABLES

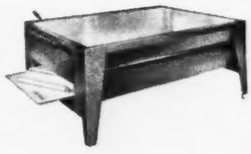


PLATE WHIRLERS

Clean, easy-to-work design is incorporated in each of the three pieces of equipment shown here. Controls are within easy reach of the operator for the utmost ease of operation. The smooth clean lines in the design of each piece of equipment makes it easier to keep the plate room clean and free of dust than ever before.

Nearly a half century of experience in the design and manufacture of the finest plate making equipment is behind every piece bearing the Robertson name plate. For the best result, give your workmen the best equipment . . . Robertson.

Send for complete catalog No. 50.

EFFICIENT DESIGN makes for more EFFICIENT OPERATION!

ROBERTSON RELIABLE REPRODUCTION EQUIPMENT

R. R. ROBERTSON CO.
3067-79 N. ELSTON AVE.
CHICAGO 18, ILLINOIS

in Andrews' honor at New York headquarters.

Jerry J. Matelan has joined the advertising and sales promotion department of Mergenthaler Linotype Co., where he will be in charge of printing production. Matelan, a graduate of Carnegie Institute of Technology, was formerly with the advertising agency of Smith, Taylor & Jenkins, Pittsburgh.

Viscometer Bulletin

A BULLETIN descriptive of the Brookfield Synchro-Lectric Viscometer, an instrument designed for measuring the viscosity of Newtonian fluids and non-Newtonian materials, has been issued by Brookfield Engineering Laboratories, Inc., Porter St., Stoughton, Mass. Readings on the instrument are made directly in centipoises. Ratio of maximum to minimum range on various models of the Viscometer extends from 100 to 1 to 4000 to 1. Designed for both laboratory and plant, the instrument weighs 3½ lbs. and operates from any a.c. outlet.

Paisley Adhesive

AN adhesive, designated Resiment, is claimed to be suitable for combining and laminating operations on similar and dis-similar materials, such as cork to metal, felt to card-board, paper to glass, fabrics to metal and also holds to many plastics. Paisley Products, Inc., 1770 Canalport Ave., Chicago 16, also report the adhesive will hold to varnished, painted and enameled surfaces.

Another use of Resiment, according to the sponsor, is in applying paper labels over the varnished and gloss printed areas of folding cartons and other paper packages. A laboratory report listing technical data and test reports is available.

55 Years with PMC — Two veteran associates of the Printing Machinery Co., who rounded out 55 years of combined service this year, are shown exchanging congratulations at the Graphic Arts Exposition. Lee Augustine, (right) Vice President, has been associated with PMC 30 years and M. Hugo Lindberg, Eastern Manager, 25 years.

Grinding and Mixing Bulletin

INK grinding and mixing equipment is included in a 16 page and cover catalog released by U. S. Stoneware Co., Process Equipment Div., Akron 9, O. The catalog contains numerous illustrations of Roller Type Jar Mills for processing, grinding, pulverizing or mixing wet or dry materials such as pigments, inks, chemicals, etc. Specifications of the equipment are presented in chart form. Included also are descriptions of Cradle Type Jar Mills, Double Jar Mills, Single Jar Mills, Ball Mills, Tumblemixers, Grinding Media, Drum Rollers and Tumblers, Rocker Roll Drum Mixer and Drum Hoisting Equipment.

D. C. Motors and Generators

ILLUSTRATIONS and descriptions of the Star-Kimble d.c. motors and generators comprise a four page, two color bulletin issued by Star-Kimble, Motor Div. of Miehle Printing Press & Mfg. Co., 200 Bloomfield Ave., Bloomfield, N. J. The bulletin provides construction, assembly and application data on the variety of types in which Star-Kimble d.c. motors and generators are available. Construction details include information on frames and field windings, armatures, brush-rigging and brushes.

Pre-lubricated Bearings

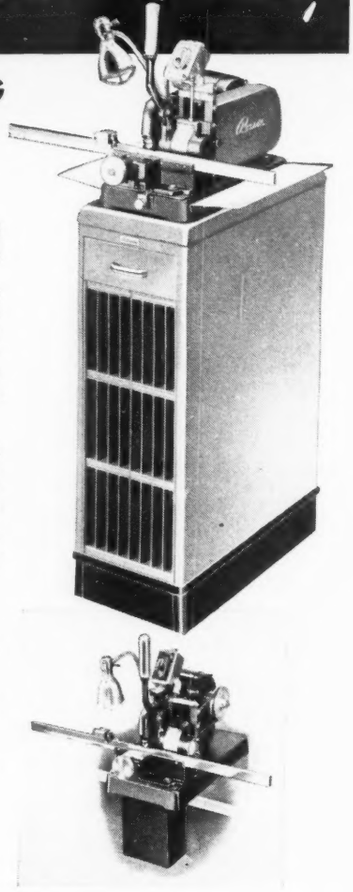
COMPLETE technical data is furnished on Reliance pre-lubricated bearing design in electric motors, in a four page bulletin issued by Reliance Electric & Engineering Co., 1088 Ivanhoe Rd., Cleveland 10, O. The illustrated folder contains descriptive sketches, cutaway drawings of the improved double shielded bearings and bracket mounting, and a check list of features of the Reliance bearing design. A greasing schedule of Reliance motors with pre-lubricated bearings is also provided.

DO THE WORK OF HOURS *in Minutes!*

SLASH YOUR PRINTING COSTS WITH THE

Rouse

POWER MITERER



If you need miters in either small or large quantities, no other machine nor method can turn out anywhere near as many perfect joining miters so quickly from strip material. That's how the Rouse Power Miterer can slash your printing costs by doing work in minutes that now takes you hours.

A Rouse Power Miterer won't cost you one cent! Printers the world over say that money paid for a Rouse Power Miterer quickly comes back through tremendous savings in expensive time. After getting your money back, you'll start collecting daily dividends from permanently lower operating costs.

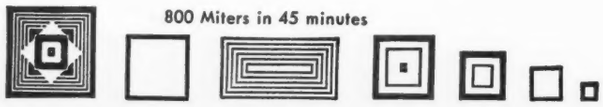
FROM THE SMALLEST JOB SHOP UP TO THE LARGEST PLANT, ONLY ROUSE MAKES A POWER MITERER FOR EVERY TYPE OF USE.

You may buy any Rouse Power Miterer as a bench model or with any other equipment you wish.

Virtually every printing plant in the world uses one or more Rouse products.

Write today for illustrated folder.

Call your dealer today or write for illustrated folder.



800 Miters in 45 minutes

H. B. ROUSE & COMPANY

2214 NO. WAYNE AVE., CHICAGO 14, ILLINOIS

ROUSE PRODUCTS – THE STANDARD OF THE WORLD FOR 50 YEARS

MITERING MACHINES
LEAD and RULE CUTTERS
COMPOSING STICKS
TYPE GAUGES
SLUG CLIPPERS
BAND SAWS

Materials Handling

LEWIS-SHEPARD Products, Inc., has prepared a bulletin dealing with equipment for vertical movement in both storage and production operations. Descriptions, specifications and illustrations of Lewis-Shepard Stackers, Handy Hoisters, Portable Cranes and Working Height Lifters, are also included. Illustrations of various materials handling installations are shown as well. Copies of the bulletin are available by writing the company at 258 Walnut St., Watertown 72, Mass.

Repulsion Motors

STAR-KIMBLE a.c. Single Phase Repulsion Motors are described and data provided on current consumption at varying speeds in a two-color bulletin. The illustrated bulletin includes different speed and operating remote controls. Literature on these 1/6 to 3 h.p. continuous duty, varying speed motors may be obtained by writing Star-Kimble, Motor Div. of Miehle Printing Press and Mfg. Co., 200 Bloomfield Ave., Bloomfield, N. J.

Varidrive Bulletin

FIFTEEN features of fractional horsepower U. S. Varidrive motors are illustrated and described in a colorful bulletin issued by U. S. Electrical Motors, Inc., 200 E. Slauson Ave., Los Angeles 54, Calif. Featured in the bulletin are the VA series of variable speed motors and seven modifications of the design are illustrated, including three-phase and single phase, combination geared drives and types with flanged bracket for direct connection to the driven machine. The construction of the Type VA, 4 to 10,000 r.p.m. Varidrive motor is illustrated in the bulletin by an ample size colored cutaway drawing.

40 Years in Graphic Arts Industry—David W. Schulkind, President of the E. P. Lawson Co., was honored recently by the Board of Governors of the Club of Printing House Craftsmen of New York on the occasion of his 40th anniversary in the Graphic Arts industry. Pictured above at the event from left to right are: James R. Goggins, First Vice President of the New York Club; William P. Gleason, President of the New York Club; Herbert Kaufman, member of the Board of Governors; Henry Schneider, Immediate Past President; Mr. Schulkind; Russ Hogan, Intl. Past President; Harvey Glover, Intl. Past President, and Ed Kiefer, Sigmund Ullman Co.

speed
Establishing new standards for high speed rotogravure printing of Publication Inserts... Folding Cartons... Wrappers... Labels... The Sperry 1000 is the star performer for profitable, high quality work, day in and day out.
The Sperry 1000 will give you competitive superiority.
Depending upon your production problems, you may want to equip with the Sperry Sheeter, Rewind, or Rotary Blanker... each designed to handle high speed output.
The SPERRY 1000 roto printer
Specifications:
● Width: 26" to 42"
● Circumference (Maximum): 46"
● High Speed: Designed to run at 1,000 ft./min.
● Heavy Duty: Rugged construction for continuous operation —built to the standards of a full form publication press.
For complete information, please write to:
FORD INSTRUMENT COMPANY
Division of The Sperry Corporation
31-10 Thomson Avenue
Long Island City 1, N. Y.

H-S Annual Report — The above illustration shows the front cover of Harris-Seybold Co.'s latest report to stockholders and employees, covering fiscal 1949-50. The cover, lithographed in color, depicts a typical American Main Street with a bronze statue of Benjamin Franklin in the center of the town square. Theme of the report was "Printing is the service industry for all industry." It was also announced that the company's report for fiscal 1948-49 was recently named Best Annual Report of the Printing Industry in a competition conducted by *Financial World* magazine. This year's report shows that total net shipments were $18,359,275 as compared to $20,507,039 for the last fiscal year ending June 30, 1949.

Glue Pots

FEATURES of Sta-Warm Glue Pots with automatic thermostatic control and TriPlex Glue Pots with 3-heat control are presented in a bulletin by Sta-Warm Electric Co., Ravenna, O. Diagrammatic drawings show the heating elements, multiple circuits and aluminum castings on the Sta-Warm pots. A section of the bulletin is also devoted to glue heaters or mixers, designed for melting and storing glue at correct temperature to replenish gluing machines or bench pots.

Seam Adhesive

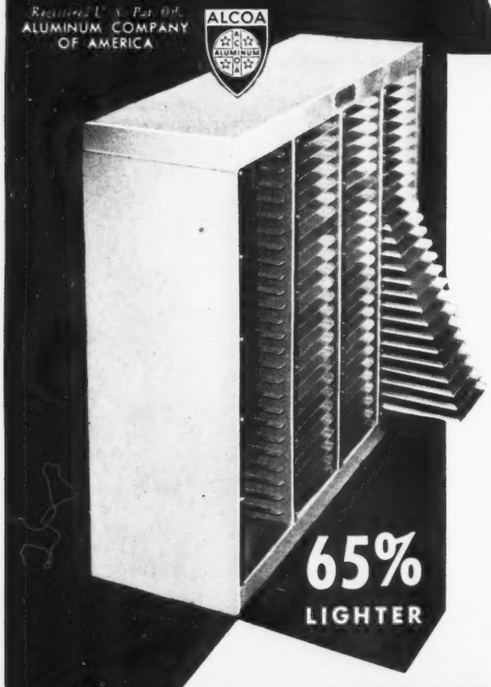
NATIONAL Adhesives, 270 Madison Ave., New York 16 claims its cold Resyn seam adhesive combines high solids with low viscosity for fabricating multiwall and specialty bags from polyethylene-coated kraft stocks. Designated Poly-Lok, sponsor claims the adhesive machines cleanly on direct roller application, tacks immediately at the rate of one hundred 10 lb. bags per min., and dries to a transparent, light gray film unaffected by variations of temperatures or humidity. National also states the adhesive will not blister with age.

Troy Mills and Mixers

AN eight page catalog printed in two colors of Troy processing equipment including mixers, roller mills and colloid mills, has been issued by the Process Equipment Div., Troy Engine & Machine Co., 4 Railroad Av., Troy, Pa. The One Point Adjustment which enables the operator to adjust the setting of the apron and feed rolls simultaneously is featured on the 12 in. by 32 in. roller mill. Containing numerous illustrations of the various equipment, the catalog also includes floor plan specifications and descriptions of each item.

ALCOA ALUMINUM **GALLEYS** AND RACKS

Registered U. S. Pat. Off. ALUMINUM COMPANY OF AMERICA



NOW you can have shipment of these sturdy, yet light weight, aluminum galleys and racks made within hours of receipt of your order. Look at the low prices listed below.

***Order now—save money.* Complete satisfaction guaranteed. Limited supply. Quantity discount.**

***CHECK* THESE FEATURES**

- √ Standard thickness (.051 gauge) for proofing
- √ Square sides for make-up
- √ Grooved sides, spot welded corners for rigidity
- √ Strong as steel—2/3 lighter
- √ Rustproof—Beveled Edge

LOW PRICES . . . . . IMMEDIATE SHIPMENT

GALLEYS		RACKS
SIZE	*In lots of 100*	100 CAPACITY
8¾" x 13"	55c ea.	$55.00
8½" x 23½"	79c ea.	75.00
6¼" x 23½"	69c ea.	69.00
3½" x 23½"	65c ea.	

Newspaper galleys (Parkerized steel) 18¾" x 23½", $3.95 ea. in lots of 10.

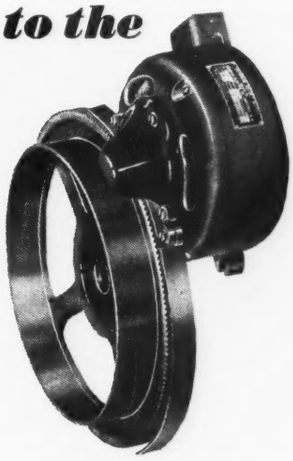
ALL GALLEYS AND RACKS GUARANTEED

GRAPHIC ARTS PRODUCTS

1959 EAST JEFFERSON AVENUE • DETROIT 7, MICHIGAN

FAULTY MOTORS CAN RUIN LINOTYPE PRODUCTION...

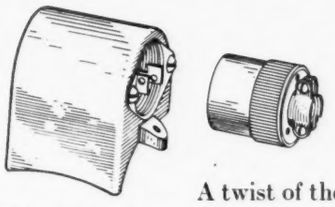
Change now to the CUSHMAN OFFSET MOTOR!



This is the motor you can depend on for performance...for power ..for safety to production *every day!* Whether you use a ball bearing or sleeve type CUSHMAN, you'll soon see *proof* that a CUSHMAN Offset MOTOR *costs less* in the long run, as well as in initial investment.

●

New Safety Terminal for Old or New Models!



A twist of the new plug in type terminal is all that's necessary to connect or disconnect the CUSHMAN Offset MOTOR. This means much more safety to operators, greater convenience when servicing is required, and eliminates danger of short circuits. This new safety terminal can easily be installed on older CUSHMAN motors, or specified on a new one at slight extra cost.

Write for complete information, giving data from plate of your present motor

CUSHMAN ELECTRIC CO., Inc.

ASSOCIATED WITH

PRECISION TRADE ★ MARK

LINOTYPE PARTS COMPANY

INCORPORATED

Factory and Main Office

SOUTH HACKENSACK, N. J.

Branch Office: 1327 BROADWAY, KANSAS CITY 6, MO.

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"Be Thrifty in '50"

BAUMFOLDERS

14x20 Five-fold Automatic Baumfolder

17x22 Five Fold Baumfolder.

17½x22½ Six-fold Automatic Baumfolder

22x28 and 25x38 Automatic Baumfolders.

30x46 . . . 60 Automatic Baumfolder.

Proportionately painless in outgo, but boy, OH BOY... an **income** for a **life time** of **golden profit.**

If kept busy but two or three days a month it will pay for itself several times over, before you pay for it.

The next move is yours... write, wire or phone collect (from anywhere)... Lombard 3-8164-5-6.

RUSSELL ERNEST BAUM, INC.

615 CHESTNUT ST. PHILADELPHIA 6, PA.

The Single Color

Offset Press

By I. H. SAYRE

THE PURPOSE of this book is to offer a detailed technical explanation of the operation of the small single color offset printing press. It also carries recommendations for approved methods of printing technique and press care which apply to all offset printing. Much of the technical operating information applies to all makes of small offset presses. Should be in the library of all executives interested in offset printing.

Section I deals with Harris offset presses.

Section II deals exhaustively with materials used in offset printing.

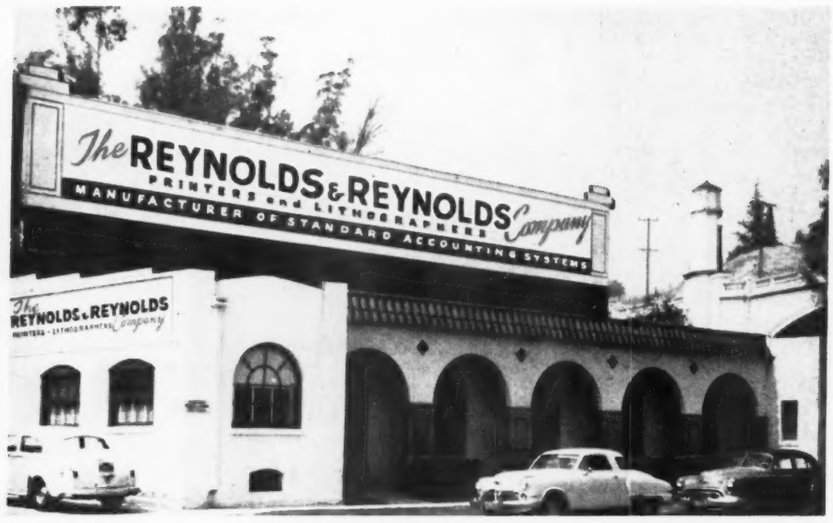
Section III deals with ATF's Webendorfer single-color offset presses.

Generously illustrated with 99 figures in line and halftone; 284 pages; size, 6 in. by 9¼ in.; bound in blue cloth, cream stamped lettering.

Price $6 per copy

Because of the small handling margin please enclose cash with order

Printing Equipment Engineer 1276 West Third St. Cleveland 13, Ohio.


The REYNOLDS & REYNOLDS Company
PRINTERS and LITHOGRAPHERS
MANUFACTURER OF STANDARD ACCOUNTING SYSTEMS
The REYNOLDS & REYNOLDS Company

Purchases Los Angeles Plant—R. H. Grant, jr., President of The Reynolds & Reynolds Co., recently announced the purchase of a new and larger plant in Los Angeles. The facilities will serve as a finishing plant for the 2200 business systems and sales aid products produced by the company and supplied to the western states of Arizona, California, Idaho, Oregon, Nevada, Washington and Utah.

Tesch Changes Hands

The production plant of the Tesch Mfg. Co., Inc., has been sold to Carl J. Paschke and Lenora Paschke, his wife, of Route 2, Menasha, Wis. Paschke will continue to operate the business under the name of the Tesch Mfg. Co. The corporation formerly owning the company has been dissolved.

Dobeckmun Buys

T. F. Dolan, President, The Dobeckmun Co., converters of films and foils, Cleveland, announces the purchase of Ben-Mont Papers, Inc., Bennington, Vt. Ben-Mont is a supplier of gift wraps and paper draperies to syndicate stores. More recently, it has developed a line of plastic coated papers for military and industrial uses. Included in the purchase is a tissue paper mill at Wells River, Vt. Over 200 thousand sq. ft. of buildings on 10 A. comprise the company's real estate holdings.

Dobeckmun's present lines include cellophane and other transparent film bags and printed rolls, Metalam laminated foils and a number of industrial specialties, including electrical insulation and Lurex non-tarnishing metallic yarn for the textile industry.

Says Mr. Dolan, "To our leadership in the film and foil converting field now is added the specialized paper converting techniques and research facilities Ben-Mont has created. By tapping new raw material sources, we reduce our dependence on transparent films which have been in intermittent short supply for the past 10 years."

Publishes Tabloid

Fred W. Brooks is editor and publisher of *Clifton Opinion*, published in Cincinnati, O. for the Clifton section of that city. The suburban paper consists of 12 pages tabloid size. It is published every other Friday. Mostly, the news coverage is local, but there are a number of features of interest by Dale Carnegie and Hollywood writers. Advertising patronage is generous. Formerly, Brooks was Composing Room Supt. of Dayton (O.) *Daily News* and the Cincinnati *Enquirer*. He is well known to many ANPA Mechanical Dept. executives.

LEADING SHOPS
STICK TO
BOOTH'S ZINK CUT CEMENT

There's a reason why leading plants stick to BOOTH'S Zink Cut Cement and that's because this finest of all cut mounting methods really mounts cuts quicker and holds them tighter. And if you want to solidify type elements for standing ads, this cement does an outstanding job. Send for an order today — from now on you'll stick to the cut cement that sticks best for you.

Prices: 75c per tube, $6.00 per dozen in the United States.

E. A. BOOTH RUBBER CO.
2855 Scarboro Road • Cleveland Heights, Ohio

BEVERIDGE *Says:*

"What Do You Consider the Most Vital Quality Feature of a Dry Mat?"

We have asked that question many times. In some plants they say **uniformity.** Others say it is a question of **service** but we believe that most plants consider the ability to make a clean cut impression with the smallest pick up is the most vital quality attribute of a good mat.

Our customers invariably say that BEVERIDGE MATS do the best job in reproducing details —that's why they lead in quality. Try them yourself in your own plant.

New Products Division
The Beveridge Paper Company
Indianapolis 4, Indiana

35
YEARS EXPERIENCE
Designing

- Newspaper and
- Printing Plants
- New Plants
- Remodeling
- Production Studies
- Survey and Reports
- Materials Handling

Morton L. Pereira
and Associates
Engineers and Architects
100 West Monroe Bldg., Chicago 3, Ill.

Things said up in front *travel all the way back*

So the Stereotype Department heard, within half an hour, about the paper's biggest advertiser who told the publisher he was planning a 40 per cent increase in space . . . "because you reach the public on time every day . . . We know," he added, "what a late paper costs us in dollars per minute." To the stereo crew it was the fruit of plans and resolutions formed months before to end every possible cause of delay. A change to Certified Mats has been part of the plan.

For dependable stereotyping, rely on Certified Mats
Certified DRY MATS
CERTIFIED DRY MAT CORPORATION, 9 Rockefeller Plaza, Dept. M, New York 20, N. Y.

NOTICE!
WITH APOLOGIES

THE CONTINUED RISE IN THE COST of producing our press packing materials has reached the point where we find it impossible to further absorb the shock.

THEREFORE—IT IS WITH CONSIDERABLE RELUCTANCE that we find it necessary to announce that as of Sept. 15, 1950, prices on our complete line of Blankets and Tympan Materials will be raised **15%**.

AT THIS SAME TIME WE SHALL PUT INTO EFFECT a new pricing policy on our MONOCORK. **From Sept. 15, the price of any blanket—regardless of gauge, and within the sizes from 33 x 45 inches to 39 x 50 inches, will be $17.00.** Odd sizes or shapes will continue priced on area. We expect to arrange the same system for all types of material soon.

NEW ENGLAND NEWSPAPER SUPPLY CO.

164 FREMONT STREET
WORCESTER MASSACHUSETTS
BRANCHES: New York—Chicago—San Francisco—Tulsa

Color Printing Control
with
PHOTOVOLT Reflection Meter Mod. 610

A photoelectric instrument for color and tone measurements in press rooms... for color as well as solid and half-tone blacks ...for control of ink flow ... for standardization of ink color.

PORTABLE, RUGGED, SIMPLE TO OPERATE

Write for Bulletin No. 639 to

PHOTOVOLT CORP.
95 Madison Avenue New York 16, N. Y.

Pre-set Speed Device

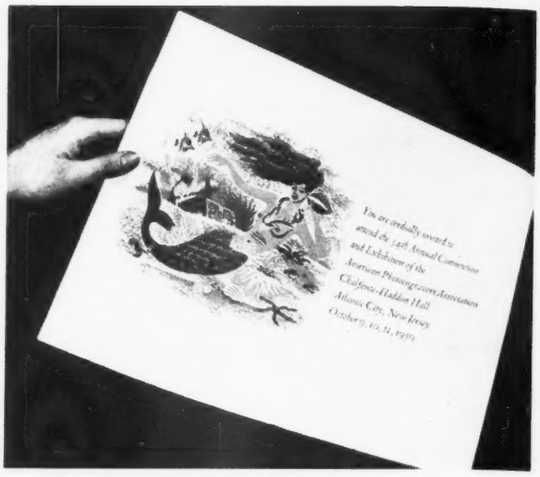
THE General Electric a.c. adjustable speed motor is now available with a mechanical follow-up control for achieving a fixed pre-set speed on printing presses, conveyor drives, fan drives and other applications. According to

An engineer demonstrates how a predetermined speed can be set manually with the pre-set speed device shown with pilot motor mounted on General Electric's Type ACA motor.

General Electric Co., Schenectady 5, N. Y., the device enables a predetermined speed to be set manually by a knob directly on the motor or at the end of a flexible cable 10 or 15 ft. away. Speed adjustment can be made while the motor is standing or running.

Speed control is obtained by rotating brushes around the commutator. In operation, the mechanism actuates a pilot motor which drives the brushes to a position corresponding to the setting of the speed adjustment knob. A stop or automatic slow-down returns the brushes to the lowest speed position without disturbing the original setting. When the motor is restarted, the brushes again come back to the pre-selected speed without attention from the operator. Accelerating time is dependent upon pilot motor speed.

APEA Convention Invitation—Pictured is the colorful invitation issued by the American Photoengravers Association in a direct-mail campaign for the 54th annual convention and exhibition which was held at Atlantic City, N. J., October 9, 10 and 11, 1950. Frank J. Schreiber, Executive Secretary of the Association, reports that a rather unusual technique was employed in both art and platemaking in producing the invitation. The illustration is in tempera water colors, painted in coral-red, aqua blue, and black. The colors were separated photographically and reproduced as line etchings. The hand-set foundry type is Centaur and Arrighi Italic. It was printed by letterpress in Dullset inks. The invitation was preceded by six small folders containing illustrations of various marine life along with descriptive material on the convention. The invitation and folders were designed by R. W. Washbish and illustrated by Paul Forster; printed by Taylor & Taylor, all of San Francisco. Engravings were made by Oakland National Engraving and Gravure Co., Oakland, Calif.



Removes Headquarters

Bijur Lubricating Corp. has announced the removal of headquarters from Long Island City, N. Y., to Rochelle, N. J.

Excess Newsprint Is Put to Good Use

Eager to purchase an available tonnage of over-size peach newsprint, but reluctant to discard the excess margin, the tabloid Los Angeles *Mirror* hit upon a plan that utilizes both the peach newsprint and the margin.

The peach newsprint is used each Thursday to print *The Mirror's* special 8 page pull-out Food Section. The excess 3 in. margin of peach newsprint is treated on the press as if it were full page size, with the fold being made at the top. The 8 page peach paper section (pages 31 to 38 inclusive) appear between pages 30-39 of the 70 page paper; the 3 in. deep fold-over strips are between pages 18 and 19 of the front half, and pages 50 and 51 of the back half of the paper.

Result is a strip of peach newsprint two pages wide and three inches deep to correspond with each sheet in the pull-out section.

The peach strips appear at the top of the paper on Thursday, September 28 set off against the white pages between which they are sandwiched. The strips for this first week were utilized for *Mirror* promotion. The results were so successful that the strips are now being made available to advertisers at premium rates.

Because the strips lend themselves well to being pulled from the rest of the paper, double-truck displays are possible on inside faces of the strips. Outside faces are limited to single page-width displays.

LOWER COSTS
WITH
CONTINUOUS BALING
NOW!
AMBACO Continuous Baling will lift your waste material from the status of a loss incurring nuisance to that of profitable, salable merchandise.
A prominent user reports, "This baler pays for itself every five years on the basis of payroll savings alone."
A statement regarding the volume and nature of your waste material will promptly bring our recommendations.
ABC The AMERICAN BALER CO. 77 OHIO STREET BELLEVUE, OHIO
CONTINUOUS BALING • CONTINUOUS BALING

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Rotogravure Equipment and Supplies

When you think of quality and know-how, think of Pioneers in Rotogravure Printing Equipment:

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2704 West Roscoe Street
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From 1928 to 1950 —

Printing cylinders — manufactured complete; semi-steel, centrifugally cast steel, etc.; dynamically, statically balanced; copper plated, turned, ground and polished.

Quality copper plating and repairing cylinders.

The best in cylinder grinding and polishing machines; special heads (patent pending) — with precision controlled stone pressure and automatic feed.

Pioneers in sale of artificial abrasive Intaglio grinding and polishing stones—since 1931.

Doctor blade grinders, layon machines, etching trucks, laboratory presses, gravure presses, plating equipment, etc.

Pioneers as a Rotogravure House for the Gravure Printer

★

STANDARD PROCESS CORPORATION
Manufacturing Gravure Equipment & Supplies
2704 W. Roscoe Street • Chicago 18, Ill.

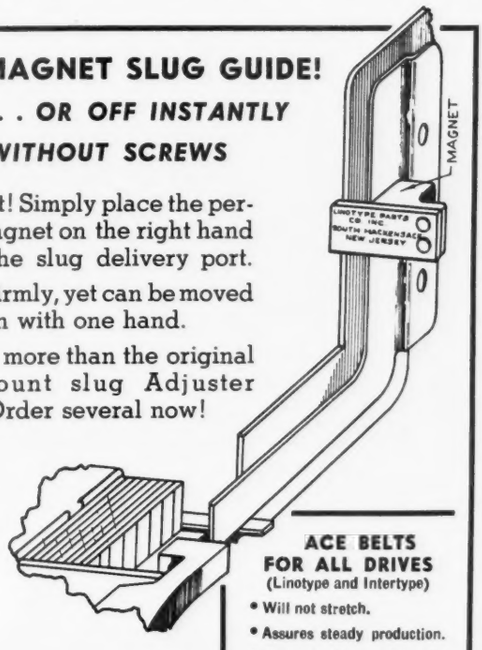
Oldest in the Country-
WOOD DRY MATS
First in the Field!
Doing One Thing Well
Our employees are specialists in dry mat manufacture . . . and have behind them the most complete facilities for testing and research. Thirty-tive years of "know-how" is the reason why Wood Dry Mats are "tops" in the field . . . why they meet the exacting standards and rigid demands of stereotypers everywhere. They handle easier and print better.
WOOD FLONG CORP.
HOOSICK FALLS, N. Y.
NEW YORK CITY OFFICE:
551 FIFTH AVE. • NEW YORK 17, N. Y.

NEW MAGNET SLUG GUIDE!
ON . . . OR OFF INSTANTLY
WITHOUT SCREWS

That's right! Simply place the permanent magnet on the right hand chute of the slug delivery port.

It holds firmly, yet can be moved up or down with one hand.

Costs no more than the original screw-mount slug Adjuster (E1597). Order several now!



ACE BELTS FOR ALL DRIVES
(Linotype and Intertype)
- Will not stretch.
- Assures steady production.
- Guaranteed unconditionally for minimum of one year.

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INCORPORATED
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As used in the printing industry for:

ROLL HANDLING
(any size or weight)

SKID HANDLING

BOXES, FLAT PAPER

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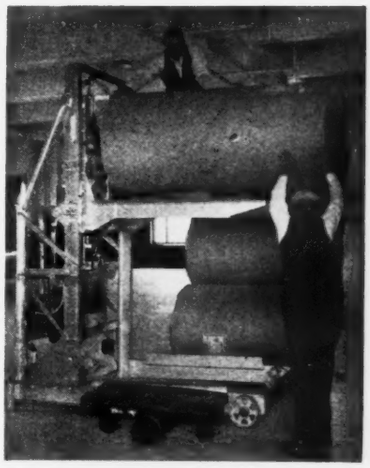
CARTONS



● "Handling News Print Rolls"

Other lifters available with capacities of 500 to 5000 pounds. Any platform lift and size. Hand and electric powered hoist units.

ECONOMY ENGINEERING CO.
4501 W. Lake Ave. . . . Chicago 24, Illinois

for Better Plates! Better Printing!

★ CENTRIFUGAL CASTING PROCESS for curved electrotypes

★ HYDRO-CASTER for flat electrotypes

These new methods of manufacturing electrotypes are available to you—for further information write

Printing Plate (CENTRIFUGAL PRESSURE CASTING) Supply Company

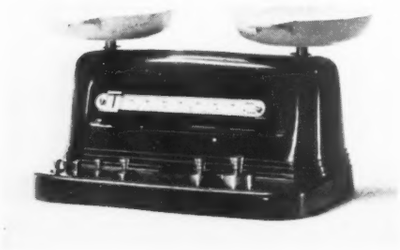
343 South Dearborn Street • Chicago 4, Illinois

Research Notes

Stanley French of the Houghton-Mifflin Co., Boston, has been appointed new Chairman of the Research Committee for the Book Manufacturers' Institute, Inc.

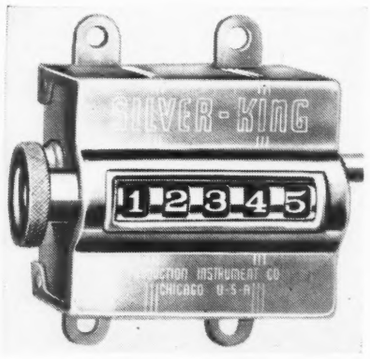
E. Bartlett Brooks of the Wayne Colorplate Co., Dayton, O., has been elected President of Photoengravers' Research, Inc. This organization had a very successful meeting in Atlantic City on October 8. The concensus of opinion is that the research expenditure will be extended for another year and that the work on etching should be completed by March 1, 1951.

Gravure Research, Inc., has authorized the initiation of a program of research on the problem connected with the effect of the oscillation of the doctor blade on tonal density of the printed job. The work will be carried on at Battelle Memorial Institute in addition to their present program which is concerned with the etching processes involved in gravure printing.



Kodak Chemical Scales—Featuring a graduated beam with sliding weight, the Chemical Scales reported by Eastman Kodak Co., Rochester 4, N. Y., are marked for both avoirdupois and metric systems. The avoirdupois markings run from 1 to 75 gr., and in metric from 1 to 50 dg. A gray plastic housing is provided to protect the mechanism from dust and spilled chemicals. Deep Tenite pans with handles and pouring lips, a sliding beam weight with window and black hair line for reading weight settings, a single adjusting weight for zero adjustment of the scale and non-corrosive chrome or polished aluminum weights are included with the scales.

High Speed Counter — A counter designated the Silver King, with speeds up to 4000 counts per min., has been announced by the Production Instrument Co., 710 W. Jackson Blvd., Chicago 6, Ill. Features of the instrument include a large shaft with



oversize bearings, all steel housing with unbreakable plexiglass window, and large, lightweight number wheels. Overall dimensions: width, $3\frac{15}{16}$ in.; length, $4\frac{15}{16}$ in.; depth, $2\frac{3}{8}$ in. Available with top-coming or top-going shaft rotation; 5 or 7 number wheels; reset knob or key; right, left or double shaft extension.

Technology

(Continued from Page 34)

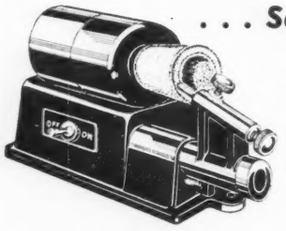
Production Mgr. of Wm. G. Johnston Co., Pittsburgh, Pa. Related Mr. Hogan: "There are really two parallel development programs in continuous operation in the presswork field. . . One program centers around efforts to make printing more of a mass production operation. The other program has to do with refinements in what we call the conventional job or general commercial field.

ments in what we call the conventional

". . . the industry ought to have a sheet fed rotary two-color letterpress which can be adapted, by a simple changeover to a sheet fed perfecting press, one color on each side of the sheet. The trend in the mass production field is toward sheet fed rotary and web fed rotary presses.

"Perfection of a curved magnesium plate may be the answer to the letter-

The NOLAN Router Bit Sharpener Cuts Routing Costs . . . Saves You Money



Now you can resharpen any routing cutter to the exactly correct angle quickly and easily. You can always have sharp bits at low costs. The Nolan Router Bit Sharpener will quickly pay for itself out of money saved on new cutters.

Available on Approval

—Write for Quotation—

NOLAN CORPORATION 1331 East Dominick St. ROME, NEW YORK

Builders of BETTER Equipment for BETTER Printing

HOW TO ADJUST

WORK-UPS

By Wm. H. Lichter and Geo. F. Smalley

This 24-page booklet analyzes causes of work-ups and gives proper procedure for locking up forms.

PRICE $1.00 CASH WITH ORDER

PRINTING EQUIPMENT *Engineer*

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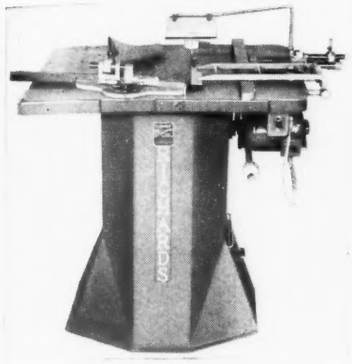
RICHARDS'
"Electromatic"
Efficiency Plus



For Stereotypers—Electrotypers —Photo Engravers.

PRECISION GAUGES
Instant change to SAW-TRIM

J. A. RICHARDS CO.
Kalamazoo, Michigan

press's need for a small, fast sheet fed rotary press printing from an original, either by direct pressure or by offset . . . A small and fast sheet fed rotary press would fill a distinct in-between need for runs which are too long for the slower flatbed method of printing, yet not long enough to justify the time and expense involved in making duplicate plates. Any manufacturer who seeks to design such a press might well also examine the feasibility of adapting it to web feed with a sheeting device.

The postwar models of presses shown at the Exposition, according to the speaker, are not radically different in design—some are probably as much as 20% more productive than the old models they succeed. Attention has been focused on better quality control, elimination of stoppage during the press run, easier accessibility, more automatic lubrication, and other refinements in addition to increased hourly speeds.

With respect to machines, methods and devices designed to step up press production or to improve quality, Mr. Hogan discussed pre-makeready and pre-press preparation of forms, humidity control and static eliminating devices, spray equipment, ink agitators, fountain dividers, perforator attachments, driers, dampening roller cover machines, tab insert sheet counter, patent base and plate mounting materials, improved mechanical overlays, electronic register control devices for web printing, color control meters, and others.

Bindery Developments

IT SEEMED that in the paper prepared by C. Howard Thomas (and read in his absence by Richard Squires), the speaker more readily accepted the equipment and process advancements in the binding industry than did the other speakers for their respective industries. Apparently, technological advancements have been satisfying in the binding branch of the business.

Mr. Thomas observed: "As a rule, in the Graphic Arts, we are dealing with a group of individualists who steadfastly refuse to have their progeny cast in a common mold." He then stated that to preserve flexibility for this service, experience would indicate that apart from folding and a few minor binding operations, most economical results are obtained by the use of combination or tandem hookup equipment distinctly apart from the printing operation.

In the book manufacturing field, research has developed thermoplastic adhesives which dry in 4 sec. With the current development of casing-in machinery, it is at least theoretically possible to case-in a book, set the joint and dry it, ready

CLINE-WESTINGHOUSE
ELECTRICAL EQUIPMENT

Unit Press Drives . . . Reels . . . Automatic Tensions . . . Speed Pasters provide safety and reliability with economy. Whether large or small . . . letterpress or offset . . . your press-room can rely on Cline-Westinghouse Electrical Equipment.

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410 Bush St. San Francisco — 220 E. 42nd St. New York City

VANDERCOOK
PRE-PRESS EQUIPMENT

Manufactured by the largest producer of proof presses and other pre-press equipment for letterpress, offset and gravure. *Write for a catalog.*

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VANDERCOOK PRE-PRESS SYSTEM —CUTS COSTS!

NEWSPAPER & PRINTING PLANT ENGINEERING

NEW BUILDINGS • MODERNIZATION
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TINGUE PRINTING PRESS BLANKETS

the *Guiding Light* to **PRINTING PERFECTION**

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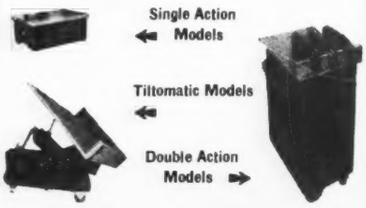

SYNTRON CO.
577 Lexington, Homer City, Pa.

for jacketing, in 4 sec. Book jacketing machines now eliminate another manual operation.

In the job and pamphlet binding field, management is interested in replacing costly hand operations with machines—but the machine must pay its own way.

Better materials handling devices and procedures are badly needed in the bindery. A terrific amount of time is put into just plain porter work, shuttling skids of sheets or signatures, covers, inserts, etc. There is also the problem of handling the units themselves and the different ways they are fed into machines—sometimes backs up, sometimes backs down, or one end or the other to the machine.

The speaker remarked that "Although much remains to be done, some progress has been made in converting to automatic operation in the pamphlet bindery. We now have automatic feeding of gang stitchers. We also have automatic delivery of trimmed pamphlets off the gang stitchers, or in counted stacks ready for trimming, or with signatures moving directly by conveyor to a trimmer."

Mr. Howard remarked that most of the new models of paper cutters no longer require the operator to be a contortionist—points of adjustment are visible and accessible.

Photoengravers

(Continued from Page 28)

entire session of the convention. From the interest shown and the information disclosed, it is evident that a future convention will devote a full day to this feature.

David O. Johnson, Graphic Arts Sales Div., Eastman Kodak Co., spoke on *New Techniques in the Reproduction of Kodak Ektacolor Film*, resulting from intensive research and experimentation on the part of the Eastman Kodak Co. *Color Composing for Photoengraving*, by A. J. Powers, jr., Vice President, Chemco Photoproducts Co., Inc., Glen Cove, N. Y., dealt with a subject that has intrigued many photoengravers and is certain to have a much wider application in the future. *Precision Plate Mounting* was the subject presented by Robert T. Rice, Technical Supervisor, Vandercook Research, Inc., Chicago. His was a red-hot topic and one in which letterpress printers are vitally interested. *A New Etching Principle of Far Reaching Significance* was described by Stanley B. Craig, United States Stoneware Co., Akron, O. A "new" principle is involved, which is not entirely new, since it represents the fundamentals of the Levy blast etching machine, placed on the market about 50 years ago. In this latest development the air is forced into the etching solution, thus bringing with it a vast amount of oxygen which it is claimed results in quicker etching and less undercutting than is usually encountered.

One of the most interesting features was entitled *Is Selling Photoengraving Different?* This address was presented by Ben F. Seward, President, Burger-Baird Engraving Co., Kansas City, Mo. The speaker employed showmanship of an unusual and unexpected character, gained the attention of his audience and delivered a lecture on salesmanship that was outstanding. Clarence A. Bostwick, Director, Cost Accounting and Statistical Dept., American Photoengravers Assoc., displayed a *Break-Even Chart* designed to aid management in the safe conduct of business. *Photoengraver and Supplier Relationship* was the subject covered by Harvey T. Holsapple, General Sales Mgr., Harold M. Pitman Co., Chicago. Edward J. Volz, President,

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Hoe Octuple Press, 22¾ cut-off. Complete with stereotype equipment. Immediately available. Now in Southwest. Very low price. American Printing Machinery Co., Inc., 88 Gold St. 1, N. Y., N. Y.

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Duplex press; must be two-way printer. Send details. Box 459.

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If your printing plant executive status has changed, please notify *Printing Equipment Engineer* promptly. By so doing, you can be sure to receive this magazine promptly at your business address.

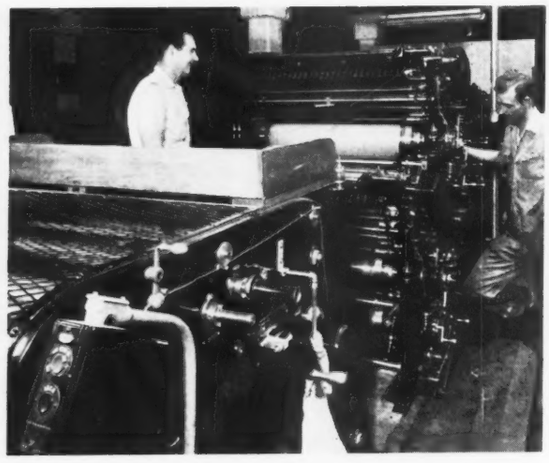
Intl. Photoengravers Union of North America, spoke on *Co-operation More Essential Than Ever*, and outlined the aims of organized craftsmen in the photoengraving industry. Frank J. Schreiber, Executive Secretary, American Photoengravers Assoc., had for his subject, *APEA—In Peace and War*. He outlined the services performed by the organization in peace and war years and urged organization and co-operation among members of the industry. Louis Flader, Consultant, American Photoengravers Assoc., had for his subject, *Men and Machines* and dealt with the training of apprentices, a subject of vital importance.

New Developments Exhibited

Forty-six firms displayed their products. The largest exhibit and that attracting perhaps the most attention was that of Vandercook & Sons, Inc. A Vandercook Four-Color, High-Speed Proof Press was in operation during the convention, as was a new low price engravers' proof press. A new method of blocking photoengravings involving a new mounting base, developed by this firm, was also displayed. It has been found over the years that wood, as a mounting material, is far from satisfactory and a number of synthetic products for this purpose have also fallen short of requirements. The method proposed involves the casting of either solid or cored metal bases by the printer upon which he can mount photoengraved plates by the use of adhesives, thus insuring dimensional stability in all directions and enabling the printer to trim his mounted plates to exact printers' measurements. This is a great forward step.

Two comparatively new halftone screens, differing from the conventional screens, were displayed by the Buckbee-Mears Co. and Moore Laboratories, the latter featuring a duplex screen which, it is claimed, enables the production of highlight halftones without the use of fluorescence.

Of cameras, there were a half-dozen or more, each having some particular feature, all of them designed to do anything known in photography as this applies to the Graphic Arts. Modern photoengraving cameras are really machines, built of metal throughout, some of them of the dark room type, others placed in the gallery; every part machined to precision, enabling the opera-



Harris Installation — Installation of a two-color 22 in. by 34 in. Harris offset press occurred recently at Jeffries Bank Note Co., Los Angeles. Shown are Ray Greene, pressman (left) and James Broadbelt, feeder, operating the press. Allerton H. Jeffries, president of the company, is now Immediate Past President, Printing Industry of America, Inc.

tor to control dimensions to 0.001 part of an inch. The Joseph Gelb Co. has a camera in which every movable part is operated by electricity and all the photographer needs to do is to push buttons. The working panels on some of these cameras might be compared with the instrument panel of an automobile or airplane. Consolidated Photo-Engravers and Lithographers Equipment Co. has made several cameras for different uses that should make the operator's job a pleasure. The Joseph Gelb Co. displayed a new vacuum printing frame in which the light travels laterally across the surface, thus insuring equal exposure over the entire plate. Consolidated also exhibited a vertical coating machine. Quite a novelty.

Of etching machines there were quite a variety. The splasher type machines being basically alike, differed chiefly in design and construction. The one that attracted considerable attention was displayed by National Steel and Copper Plate Co., this being an etching machine built of transparent lucite material. Bridgeport Engravers Supply Co. showed a shearing machine, power-driven, which cuts metal to exact dimensions without leaving a burr and which operates so smoothly that a five-cent piece placed on edge on the bed of the machine will not even topple over during the cutting process.

Koloroid Proofing Process

The Consolidated-Hammer Dry Plate and Film Co. came up with a new one which they term the Koloroid Proofing Process. It is claimed this method will produce a true color proof from the color separation negatives before these are photoprinted on metal and etched. It is claimed that an actual four-color process proof can be made from these negatives in one hour. This enables the photographer to check all of the separation qualities of the negatives before plate production. Koloroid is described as a photographic sensitized ink pigment paper made in the standard four-color process inks for letterpress, lithography and gravure. The Koloroid process is a photographic transfer method whereby prints are made on the Koloroid pigment paper in contact with the separation negatives, producing after development an image which can be transferred to a Koloroid treated paper base. This is a distinct novelty.

The latest electrolytic etching machine displayed by General Plate Makers Supply Co. is a revelation in design and performance. An electrolytic etching machine manufactured in England was also displayed.

Flush-mounted Engravings

Within the last few years a machine of the bandsaw type has been introduced for separating and trimming mounted plate. Several of this type of machine are now on the market and these attracted a great deal of attention. They are destined to replace the circular saw and trimmer formerly used. This method of trimming mounted plates, combined with adhesives to fasten the plate to the mount, result in flush-trimmed engravings which will align perfectly with type and other materials in a form, thus saving the printer a great deal of time and avoiding workups and the like.

The Master Etching Machine Co. exhibited a complete line of etching machines, plate-cleaning machines, burning-in stoves, squaring devices, etc., all designed to meet present-day requirements. One of their novelties is a heating element intended for automatic temperature control in etching machines. This equipment can be introduced in any etching machine for etching halftones on copper.

Printing Arts Research Laboratories, Inc., displayed a new Dropout White and Dropout Lacquer for the purpose of outlining subjects by chemical means. This will replace quite a number of time-consuming, manual operations.

Resolutions Adopted

Among the resolutions adopted by the convention was one dealing with increased productivity. An admonition for members of the industry to comply with all provisions of the Defense Act of 1950; one dealing with the manpower shortage, calling for an increase of apprentices; one on the subject of foreign competition; another resolution favored the retention of the Taft-Hartley Law, and one declaring against socialized medicine.

ADVERTISERS' INDEX
NOVEMBER 1950

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CHARLES A. TALLINGER, JR., Central District Representative, 1276 West Third St., Cleveland 13, O. Phone: CHerry 1-6645.

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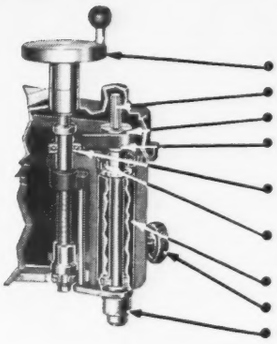
Production and Mechanical Executives are invited to submit to the editor informally in a letter devices which have helped production in their plants.

HAMMOND *Radial Router*

1 **A BALL BEARING SPINDLE WITH BELTED DRIVE FROM A ½ HP REGULAR TYPE, CONSTANT SPEED MOTOR.** The ball bearing spindle runs at 12,000 RPM. The pulleys and other parts are dynamically balanced for smooth, vibration free operation.



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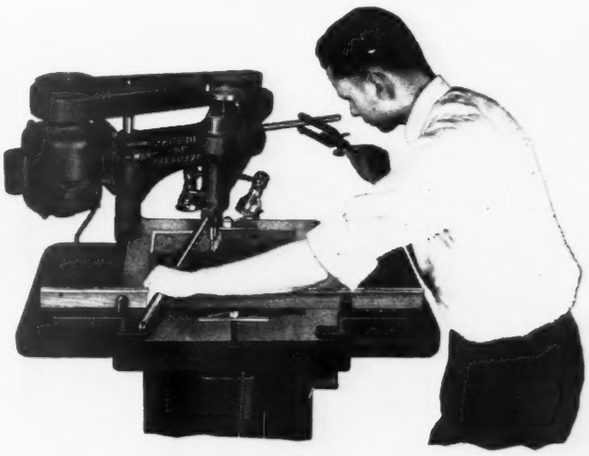

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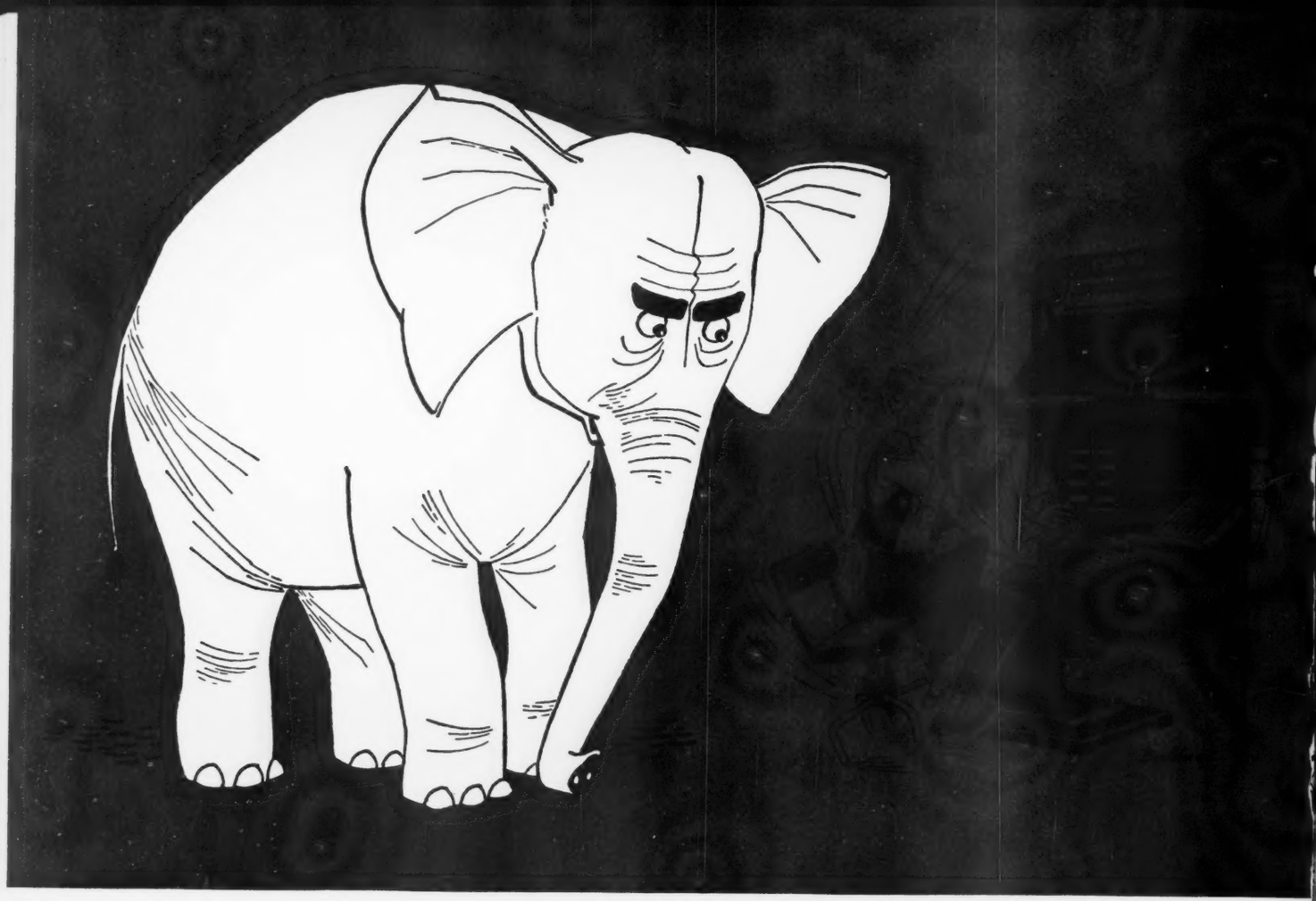

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